National Longitudinal Survey of Children and Youth (NLSCY)

Overview Report

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EXECUTIVE SUMMARY

Program Description

The National Longitudinal Survey of Children and Youth (NLSCY) was developed with the objective of collecting data to identify risk factors for Canadian children, thereby improving society's understanding of the important process of child development. It is expected that information form the NLSCY will provide strategic insight for the formulation of more effective programs and policies for children at risk. Data was collected beginning in the fall of 1994 from a targeted population of 25,000 Canadian children.

The survey is expected to be repeated every 2 years until at least 2002. The sample was comprised of cohorts of age groups from 0-11 years in 1994, and information was provided by the parents, the children themselves (for children of 10-11 years of age), and school teachers and principals. The sample is drawn from all Canadian children, excluding Aboriginal children living on Reserves and children in institutions.[1] The survey was developed by Human Resources Development Canada and Statistics Canada with input from technical and advisory subject matter experts, other departments and Provincial/ Territorial representatives.

While the immediate objective of the NLSCY is to create a database on child development and risk factors to guide future policy and programs, the downstream social implications of carrying out the NLSCY are to reduce the long term costs to society. Information resulting from the NLSCY will create a new base of knowledge. New knowledge will hopefully result in various preventive actions to increase the health and well-being of children and youth. This will in turn result in cost savings and clear societal benefits by reducing, among other things, sickness (and therefore visits to the doctor and hospitalization), and the frequency of delinquent behaviour (and thus the institutionalization of troubled teenagers).

The NLSCY is part of the broader interdepartmental Child Development Initiative (CDI) of the Federal Government. The CDI provides a wide range of programs for Canada's children in such areas as nutrition, child health, and justice and is Canada's response to the United Nations summit for children. The CDI's objective is to address conditions of risk which threaten

1 Note that extensive effort, involving several Departments, was given to the topic of developing a study component for Aboriginal children living on reserves, but obstacles to such a component were not resolved. Note also that future cycles will study Cycle One children who later became institutionalized

Evaluation Description

This report outlines the findings of the Evaluation of the NLSCY. The Evaluation was undertaken in response to the Treasury Board's requirement that all programs conducted as part of the Child Development Initiative be evaluated by the end of the fourth year of the five year initiative (1992-97).

As the NLSCY is a long-term project as and data from the first cycle of the NLSCY survey were not available at the time of this study, this report constitutes a process evaluation of the NLSCY. The purpose of this evaluation was to examine quality of survey design and development; relevance, rationale and need for the NLSCY; anticipated usefulness and potential application of data from the longitudinal survey. In addition to providing an initial formative evaluation, it lays the groundwork for a later, summative Phase II evaluation of the NLSCY which is expected to examine actual uses made of the data and impacts of the NLSCY.

This formative evaluation study involved a number of research components and activities including: a Review of Background Information and comparisons with other Canadian and international children's studies; Key Informant Interviews (n=30); a Delphi Panel Study of Methodologists (n=24); a Survey of Potential Users across Canada (n=124). As well a Focus Group of Delphi Methodologists and Subject Matter Experts was conducted at the end of the study. These participants in the evaluation interviews, surveys and focus groups are referred to within this report as *evaluation participants*. Results from each of the components were detailed in separate Working Papers and are bound separately from this report (see a list of working papers in Appendix B).

Key Findings

Relevance and Importance of the NLSCY: A review of recent Canadian research on children indicated that the NLSCY does not duplicate any other Canadian study currently being undertaken or having been recently completed. Other Canadian research on children tends to be based on smaller samples; to be conducted regionally rather than nationally; to be cross-sectional rather than longitudinal; and to focus on specific topics rather than a broad range of topics.

Thus, the NLSCY appears to be unique in its combined characteristics which provide a national sample, broad topic coverage, and longitudinal methodology. The NLSCY fills an important gap in current Canadian research on children, which suggests that the NLSCY is very relevant.

The relevance of the NLSCY was clearly supported by findings from each of the four research components. All of these component studies indicate that NLSCY data will be a valuable tool for future research which will contribute to an increased knowledge of the characteristics of Canadian children. *When these research results are combined with the fact that longitudinal data are necessary for the analysis of causal relationships, the relevance and importance of the NLSCY are well supported.* In fact, many evaluation participants believe that the NLSCY will grow in relevance and usefulness over time as more longitudinal data becomes available.

Role of the Federal Government: *The evaluation research identified a variety of reasons why the federal government should play a major role in a study such as the NLSCY.* First, longitudinal studies require secure funding throughout the study in order to guarantee their longevity. Second, governments can guarantee the organizational survival of a longitudinal study even after the original principal researchers have changed. Finally, it is more practical for a national organization, such as the federal government, to conduct national studies.

The NLSCY development process: The development of the NLSCY was generally a positive process. Key informants, for the most part, were very satisfied with the consultative and collaborative nature of the process, particularly members of the academic community. Although most participants were pleased with the study process, some indicated that the process would have been aided by a clearer prioritization of study goals.

As well, the NLSCY development process reportedly was hindered somewhat in the early phases of the project by a need for clearer operational goals and roles for HRDC and Statistics Canada. These issues may have stemmed from the unique mandates of the two organizations: that of HRDC as principal funder and the source of scientific and intellectual leadership for the study, and that of Statistics Canada, with its specific role in the conduct of the field surveys and generation of statistical results (and its unique related legal responsibilities under the *Statistics Act).* Recent reports suggest that efforts to clarify the HRDC/ Statistics Canada goals and roles have been successful and that communications and definitions of roles and responsibilities have improved considerably over the past year. Tight time frames were also a concern during the NLSCY development process. Additionally, many Provincial/Territorial representatives indicated that the development process could have included stronger consultation.

NLSCY Survey Design: *The NLSCY survey design was highly rated by participants in the methodologists Delphi Panel and the Survey of Potential Users. Overall soundness of the survey design, and almost all aspects of sampling, content and survey instruments, were rated highly by the Delphi Panel Methodologists.* Despite positive evaluations of the NLSCY survey design, most evaluation participants had suggestions for improvements.[2] Delphi Panelists and others suggested that small improvements to existing measures in the NLSCY could greatly enhance the usefulness of the NLSCY and should be a priority for the future iterations of data collection. As well, one area in which the NLSCY was not highly rated by Delphi Panel members was with regards to the study's breadth as opposed to depth of information gathered. Many panelists suggested that some information should have been obtained in greater depth. Even so, for the most part it was acknowledged by methodologists that a trade-off has to made between breadth and depth in the NLSCY content, and that the breadth of the NLSCY was reflective of the study's diverse goals.

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2 For a more detailed look at the suggested improvements, content gaps, etc. please refer to the detailed Working Reports on the Survey of Potential Users and the Delphi Panel Study of Methodologists. This working report lists suggested changes to the NLSCY's methodology as a whole, as well as suggested improvements to individual measures found in the NLSCY.

Data Collection Methods: *The evaluation found that methodologists and potential users generally approved of the NLSCY data collection methods.* Listed strengths of the data collection methods included the use of personal home interviews; the variety of informants consulted for each child; and the use of both personal interviews and self-report questionnaires.

Some Issues: The Computer Assisted Personal Interview (CAPI) computer systems were reported as being too slow, during Round I of the NLSCY data collection, making interviewer rapport with the respondents more difficult. As well, it was indicated that some of the parental consent forms needed to implement the in-school component of the NLSCY were not completed at the time of the in-home interview, as a result of the CAPI set-up. This is thought to have been a factor affecting the subsequent cumulative response rates for the in-school component.

These problems have been addressed for Cycle II of the NLSCY. However, it has been suggested that response rates for the in-school component may be difficult to improve significantly, even with the changes in the CAPI system which have been undertaken since Cycle One since other factors such as school board authorizations and teacher responses compound response rate problems. Also, evaluation focus group participants were sceptical that mail surveys or personal interviews alone could easily resolve these problems, since they believe a good portion of non-response comes from teacher's apprehensiveness to give up their time to fill out surveys or take part in an interview. It was thus suggested that important information could also or alternatively be obtained from the child's school records to supplement teacher data.

New Knowledge: *The evaluators found widespread expectations that the NLSCY will generate new knowledge about all aspects of children's lives.* It was pointed out by many evaluation participants that the NLSCY is providing new knowledge simply by the fact that it is the first national and longitudinal study of children in Canada. It was noted that the most new knowledge collected by the NLSCY will come from determining the various factors which place children at risk, and how those risk factors interrelate. Until now, research has linked certain risk factors to development, but a multitude of risk factors have not been incorporated into a single study in order to provide researchers with an overall perspective concerning the relative importance of a multitude of factors. The NLSCY is the first study in Canada to do this.

Content Gaps: *A variety of content gaps were noted by evaluation participants.* The content gaps mentioned most frequently included information on sexual, verbal and physical abuse; poverty; positive influences in the child's life; drug and alcohol use; and social influences in the child's life. Evaluation participants also felt that collecting information on paternal parenting styles, literacy and expanding tests like the PPVT to all age levels were important issues to address. Some of these gaps are in fact covered by the NLSCY but, some evaluation participants suggested, not covered in sufficient detail to provide the data these evaluation participants wanted.

It must be concluded that certain content gaps are inevitable given NLSCY's need to focus the survey, control the length of the survey questionnaire, and meet tight scheduling and budgeting requirements. Furthermore, the NLSCY was designed to provide breadth of issue

coverage rather than depth of issue coverage. Therefore, the evaluators concluded, many of the gaps in NLSCY coverage which were identified, occur because of the chosen breadth of the NLSCY — within which not all topic areas can be covered in full detail.

Potential Uses of the NLSCY: All respondents to the Potential Users Survey felt that they would use the NLSCY data from Cycle I, while approximately 70 percent of the respondents also felt that they would make use of the longitudinal data which would be available in the future. Largely because of their only becoming aware of the NLSCY at the time of this study, a substantial minority of potential users reported that they did not yet know what their plans would be (if any) for the use of the longitudinal data.

Evaluation participants rated highly the potential use of the NLSCY data to design and improve delivery of programs for children. The other potential uses that received high ratings included: to develop policies; to conduct analyses of key research issues; and to identify targets for new programs. Most potential users felt that the longitudinal data would be more useful than any cross-sectional data: to identify targets for new programs; to design new programs; to improve delivery of current programs; to develop policies; and to conduct analyses of key issues covered by the NLSCY. According to reports from potential users the most useful potential outputs of the NLSCY are expected to be the highlights report by Statistics Canada; distillations of results designed to aid children's programs; and specific reports that will follow the release of the data. The methods of disseminating the data which were most often suggested include: through government publications; news releases; conferences; and workshops. A large number of the evaluation participants also suggested using the Internet to provide information on the NLSCY and on how to access NLSCY data.

Obstacles to Using the Data: *According to potential users, the main obstacle to using the NLSCY data is the likely cost of purchasing the data*[3]. The limitations of Provincial and Territorial sample breakdowns, the lack of human resources (within their organizations), and the lack of knowledge on how to use longitudinal data were also frequently identified by potential users as being likely obstacles to the use of the NLSCY data. Lack of technical expertise and resources were also stressed as a clear obstacle for community groups to using the longitudinal data. Providing materials and reports specifically for use by community groups, written for lay persons, was suggested as a way to reduce this concern. *Lack of awareness of the NLSCY was also noted as a substantial obstacle to use of the survey, as many potential users were aware of the survey only because of being contacted by the evaluators.* Extensive use of the media in advertising the NLSCY was suggested by many of the NLSCY evaluation participants.

Support Systems: *A variety of support systems to assist users of the NLSCY were suggested.* These include: the creation of an NLSCY user group; provision of a resource person/team for consultation on how to use the data; the provision of training to assist all researchers, especially those who are used to working only with cross-sectional data; providing clear and accessible documentation to facilitate the use of the NLSCY; using the Internet; providing a

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3 Few respondents were aware however, that costs to academic users will be relieved under the Statistics Canada *Data Liberation Initiative*.

media contact or a spokesperson to facilitate the use of the data by the media; facilitating research which is conducted with the NLSCY data; and the hiring of an NLSCY data librarian. These needs point to a variety of important support roles which Statistics Canada might consider following, beyond its usual role of facilitating the understanding of the data files.

Cost-effectiveness: In general, existing research examined in the evaluation literature review indicates that the benefits of longitudinal surveys outweigh their costs. When the cost of information is compared to the benefits of the use of the data, it was suggested that the resources dedicated to the NLSCY are appropriate. Furthermore, most researchers argue that causal analysis can be more effectively undertaken using longitudinal data — cost-effectiveness goals are met when complete and verifiable answers are obtained (longitudinal data) rather than inconclusive answers (cross-sectional data).

Alternatives: Several alternative methods of conducting the NLSCY were suggested in order to make it more useful or cost-efficient, without significantly increasing costs. For example, it was suggested by some members of the Delphi Panel that it may be preferable to follow only two cohorts longitudinally, rather than the current seven. It was suggested that if only two cohorts were retained for the longitudinal portion of the NLSCY, extra resources would be available to increase the sample size. Not all Delphi participants agreed with this suggestion however, many believing that the number of cohorts is a strength of the NLSCY.

It was also suggested that instruments/questions that did not obtain good response rates in Cycle One be eliminated in order to reduce the length of the questionnaire. Many Delphi participants agreed with this suggestion. Further suggestions included collecting data from the children and their parents at 3 year rather than 2 year intervals, reducing the sample size in larger provinces and increasing the sample size in smaller provinces, and eliminating the cross-sectional samples. It was suggested that the money saved from these measures could allow for increased sample sizes, replacing those survey respondents who have attrited from the survey; oversampling immigrants, Aboriginals, or other risk groups.

Conclusions

The NLSCY was found to be highly relevant and an appropriate initiative of the Federal Government. As well, it appears to be a cost-effective and significant undertaking for the development of new information on Canadian children which does not duplicate any other Canadian study. The NLSCY will provide a wealth of new knowledge on the development and characteristics of children in Canada, according to a wide range of subject matter specialists and methodologists who participated in the evaluation. Further, the NLSCY appears to have provided a variety of important advances in measurement and survey techniques. Thus the NLSCY was seen to be a significant accomplishment.

The NLSCY survey design was highly rated throughout the evaluation. Overall soundness of the survey design and most aspects of sampling, content and survey instruments were also highly rated by the evaluation's methodological Delphi panelists. Some areas for improvement were suggested, along with the suggestion that goals of the survey be clarified/prioritized.

Generally, however, the NLSCY and its methodology were strongly supported by methodologists and potential users from across Canada.

The development of the NLSCY was reportedly a positive process. Key informants, for the most part, were satisfied with the development process, although the Provinces/ Territories would have preferred a stronger voice in the consultations. Need for better role definitions in joint operations of the Statistics Canada/HRDC Project Team , stemming from the unique mandates of the two organizations, were found to have been substantially remedied over the past year.

A wide range of potential impacts were noted, with the understanding that additional planning was required by the NLSCY managers to maximize awareness of the data among potential users.

MANAGEMENT RESPONSE

Applied Research Branch would like to thank all those who participated in the evaluation of the National Longitudinal Survey of Children and Youth (NLSCY), the main activity of the "What Works for Children - Information Development Program" component of the Child Development Initiative. We are pleased to see evidence of widespread support for the survey. In general, the evaluation report indicates that the evaluation participants overwhelmingly acknowledge the importance of the NLSCY and the value of the data which it collects.

Positive suggestions were gathered from the user community related to dissemination, user support and facilitating research. These will be used by the NLSCY Project Team to ensure that the survey's full potential is achieved and user requirements are met to the greatest degree possible. The evaluation report documents strong support for the NLSCY and for the activities accomplished to date for the first data collection cycle. However, as with any undertaking the size of the NLSCY, evaluation participants proposed suggestions for improvements to the survey. We would like to respond to a few of these.

Objectives

When the project was conceived, the Treasury Board Directive stated that "social, health, educational and other indicators of well-being will be collected and analysed in order to better identify effective interventions for children at risk." Furthermore, "the research findings will be applicable to the modification of existing and development of new policies for children at risk." To respond to this, the Project Team developed a series of broad objectives and designed the survey as a strategic policy tool encompassing a wide variety of factors known to influence child development. The methodology and technology are in many ways innovative and have been developed in response to the unique characteristics and complexities of this survey. The strategic policy needs which it was designed to serve were not mandated to any particular department or jurisdiction and thus the objectives are purposely non-specific. However, the changing social policy environment and the fact that the NLSCY like other government programs is subject to close budgetary restraint necessitate a continuing close scrutiny of the survey objectives, its collection instruments and its costs in the future.

Design

Participants in the evaluation were highly satisfied with the NLSCY design. However, as with content, the report contains a series of suggestions from these participants about various aspects of design. Suggestions were made that only certain cohorts should be followed longitudinally, that data should be collected at 3-year instead of 2-year intervals, that the sample size in larger provinces should be reduced to pay for increased sample in smaller provinces, that the cross-sectional sample should be eliminated and that certain high risk groups such as Aboriginal peoples and recent immigrants should be oversampled. Later in the report, other ideas are proposed such as topping up the original sample, standardizing measures over the course of the study, ensuring that the same respondent answers on behalf of the children in subsequent cycles and suggesting that the PPVT be extended to all age groups.

These suggestions, although appreciated, are ideas which have been discussed by the NLSCY Project Team during the development of both the first and second collection cycles. It is important to remember that the complex nature of the survey and the competing demands which it strives to fulfill result in a delicate compromise constrained by a fixed budget and a sensitivity to respondent burden. Unfortunately, this compromise cannot respond exactly to the preferences of all users. However, in preparation for future cycles, the survey design will be continually reviewed to ensure that the objectives of the survey can be satisfied given the available budget.

In response to the concern that Aboriginal children living on reserves were not included in the sample, we would note that while the survey sample frame did not include such children, considerable consultation was carried out with the Aboriginal community regarding the feasibility of a parallel survey of Aboriginal children both on and off reserves. Because reaction from the Aboriginal community was mixed and support was not strong for such a survey and also because of the need to reduce expenditures during the period of program review in 1995-96, a decision was made to not proceed with this survey. However, Health Canada is supporting a series of regional health surveys with Aboriginal communities which should provide some information on children.

Survey Content and Measures

The content of the NLSCY was rated very highly by the evaluation participants, although some would have preferred to collect more detailed information on certain topics. The evaluation correctly notes that the NLSCY was designed to provide breadth of issue coverage rather than depth of issue coverage.

NLSCY Project Team members conducted a wide consultation in order to assure the inclusion of appropriate content. However, some evaluation participants offered suggestions to resolve what they considered content gaps. Many of these suggestions were considered during the course of the content development process but they were excluded for a variety of reasons. Appendix A provides a list of the topics proposed by the Evaluation participants and a

description of their current status. However, the survey content (as well as design) will be reviewed periodically for future cycles, keeping in mind the need to maintain consistency of content for longitudinal purposes.

There is a suggestion in the report that some of the survey measures have been shortened arbitrarily and will therefore produce questionable results. Evaluation participants proposed that complete measures be re-inserted. It is true that some survey measures have been reduced from their original length. However, the reductions were done by members of the NLSCY Expert Advisory Group using their expertise and the results of other surveys in which the longer versions were applied. Results to date indicate that all of the reduced measures are working quite well.

Development Process

The report states that Provincial/territorial representatives indicated that the development process could have included stronger consultation. In the process of content development, the Project Team met with several hundred people. Among these, valuable comments were received from provincial representatives who had the difficult job of collaborating with colleagues in other provincial departments to produce a summary of recommendations to the Team. Because of the volume and variety of input received, the team relied heavily on the members of the Expert Advisory Group for their knowledge of key issues pertinent to child development that would provide a framework into which comments received from others could be integrated. Although all comments received were taken into consideration, the challenge of the exercise was to reach a consensus which would respond to the majority of the needs of the majority of interested parties in a limited time period.

The survey content development and selection process was a challenging exercise requiring a balancing of the vast data needs of the research communities both internal and external to the federal government. The process was dependent on the availability of existing, reliable and tested measures and was subject to the logistical constraint of conducting a household interview of reasonable length. The requirement to include a broad range of survey content with a tolerable level of response burden required a judicious selection and occasional reduction in the length of some measures.

Potential Use of NLSCY Data

In conclusion, it should be noted that some concern is expressed in the evaluation report about potential obstacles to use of NLSCY data, including its cost, the lack of awareness of the NLSCY by potential users and the lack of technical expertise and resources in the user community. HRDC wishes to encourage and facilitate the use of the NLSCY data. It supports the creation of the Data Liberation Initiative at Statistics Canada which promotes wider and less expensive access to data files such as the NLSCY for academia. At the present time, almost 50 universities are participating in this Initiative.

Information from the first NLSCY collection cycle was released in November 1996 and has been highly publicized in the media. This release included a publication entitled *Growing Up in Canada*, a collection of articles of original research based on the first NLSCY data and written by members of the NLSCY Expert Advisory Group. Also in the fall of 1996, the Canadian Council on Social Development released a report, based in part on NLSCY data, entitled *The Progress of Canada's Children 1996* which drew considerable media attention. An article on the CCSD report in the December 1996 issue of the magazine *Canadian Living* also highlighted the NLSCY. This comprehensive reporting of the state of well-being of children was only possible because of the NLSCY, and this was acknowledged.

The survey has also been publicized through presentations at workshops and conferences, and more are planned. A major Canadian conference on children in November 1996 entitled *Canada's Children, Canada's Future* included a workshop presentation on the NLSCY results as well as several references to the value of the survey during different key speeches; this conference was attended by over 1,000 participants.

These reports and activities will be supplemented over time by results emerging from the research program being established for the NLSCY data. It is expected that by providing a range of information options, the individual needs of all in the user community will be largely met.

1.0 INTRODUCTION

1.1 NLSCY Background: Context in Child Development Initiative, Objectives and Cost

The National Longitudinal Survey of Children and Youth (NLSCY) was implemented as part of the Interdepartmental Child Development Initiative (CDI), whose goal is to address conditions of risk which threaten children's health and well-being. CDI is Canada's response to the United Nations World Summit for Children, "Brighter Futures", and involves numerous departments, namely Health, Justice, Solicitor General, Heritage, Human Resources Development and the RCMP. There are over 30 programs under CDI. HRDC receives approximately 2 percent of all CDI funding.

The NLSCY was developed jointly by Human Resources Development Canada (HRDC) and Statistics Canada, and is implemented by Statistics Canada under contract to HRDC. The NLSCY survey design was developed with input from an expert advisory group, an interdepartmental consultation committee and Federal/Provincial/Territorial consultations.

The primary objective of the NLSCY is to create *a national database* on the characteristics and life experience of Canadian children as they grow from infancy to adulthood, and thus to aid development of national social policies. The database will measure and monitor the prevalence of various characteristics and risk factors, and the impact of these conditions on the development of children. It is intended that the application of the findings by government agencies, academics, community groups, schools, and others, will help in the development of more effective long-term policies and programs for children at risk, and aid Canada in providing policy leadership in these and related areas.

A total of 25,000 children from across Canada (with an additional 2,300 children from the Territories) from newborn to 11 years old in 1994, were targeted for taking part in the NLSCY. This group, excluding children of parents who decided not to participate, or who cannot be located, will be surveyed every two years as they grow to adulthood. Participating households in the ten provinces were selected from a list of households provided by Statistics Canada's Labour Force Survey (LFS). The NLSCY sample is generally representative of the Canadian population but excludes certain populations which did not take part in the LFS, specifically children in institutions and children living on Indian reserves. Although the LFS excludes the Yukon and the Northwest Territories, the NLSCY drew a sample of households for these areas. The NLSCY sample for the first round of the survey included all children who were members of the same economic family,[4] who resided in the selected household and who were under the age of 11. A maximum of four children were surveyed in each family, with children aged 1 and

[4] For the NLSCY, an economic family is defined as all family members related by blood, marriage, common-law relationship or adoption; foster children are considered to be part of a family.

under oversampled. In families with more than four children under the age of 12, four children were selected randomly. For purposes of analyzing the information that was collected, the children who took part in the NLSCY were divided into seven age groupings: 0-11 months, 1, 2-3, 4-5, 6-7, 8-9, and 10-11 years.

Sample size was chosen so that there would be a sufficient number of respondents in each age group after five survey cycles to reliably study, at the national level, characteristics with a prevalence of 4 percent across Canada. Furthermore, a sufficient sample in each province and territory was required to produce reliable estimates for all children ages newborn to 11 years, with no age breakdown.[5]

The first round of the NLSCY data collection was completed during the winter and spring of 1994-95. The person most knowledgeable about the child (usually the mother) answered questions relating to the family environment and the child in a personal interview which lasted, on average, 2 hours. Interviews were conducted using Computer Assisted Personal Interview (CAPI). Children aged 10-11 years completed an additional written questionnaire. The Peabody Picture Vocabulary Test (PPVT) and a mathematical test[6] were administered to children in specific age groups. Also, teachers and principals of "NLSCY children" of school-age were asked to complete an additional written questionnaire. Data from the first wave of cycle one of the NLSCY are now expected to be released in the Fall, 1996.

The cost of the first cycle of the NLSCY, including survey development, field operations and data preparation is estimated at $6 million (spread over a three-year period), which is comparable to the costs of other Statistics Canada national longitudinal surveys.

1.2 Evaluation Description: Purpose, Methods, Constraints

An evaluation of the NLSCY was undertaken to respond to a Treasury Board requirement that CDI programs be evaluated by the end of the fourth year of the five year initiative, to provide input to the overall interdepartmental evaluation of the Child Development Initiative (CDI). The purpose of the NLSCY evaluation is to identify and clarify key issues relating to relevance, rationale, need, development and alternatives of the NLSCY.

The evaluation focused on the anticipated usefulness of the NLSCY, the quality of its survey design, the potential application of survey results, the processes followed in developing the instruments, the potential applications of the NLSCY data, and strategies for dissemination and marketing of the data. Suggestions for improvement, and alternatives for future cycles were also examined.

The evaluation of the NLSCY involved a number of study components and activities. These activities and outputs included:

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[5] For more detailed information regarding sampling, please refer to: *National Longitudinal Survey of Children: Overview of Survey Instruments for 1994-95. Data Collection, Cycle I* February 1995: Statistics Canada and Human Resources Development Canada, Catalogue No. 95-02.

[6] Statistics Canada has sponsored the development of the Mathematics test for Cycle One and Cycle Two, as well as the collection of data from school principals.

- A Review of Materials, including program documents, current literature and literature from similar Canadian and international studies (Output: *Literature Review: A Working Paper for an Evaluation of the National Longitudinal Survey of Children*).

- Key Informant Interviews with 30 persons, including interviews with members of the HRDC/Statistics Canada Project Team, the NLSCY Advisory Group, and the Interdepartmental Consultation Committee, and participants of the Federal/Provincial/Territorial Consultations (Output: *Key Informant Interviews: A Working Paper for the Evaluation of the National Longitudinal Survey of Children);*

- A Delphi Panel Study of Methodologists, in which the panel was made up of 24 academics knowledgeable in methodological issues, as well as a specific subject area of expertise related to children — psychology, health, education, sociology, and others. The Delphi Panel Study consisted of three rounds of data collection to assess the survey methodology (Output: *Delphi Panel Study of Methodologists: A Working Paper for the Evaluation of the National Longitudinal Survey of Children)*; and

- A Survey of Potential Users of the NLSCY data, from all fields, including government, universities, media, education, advocacy groups, children's service providers, health care providers, and others (n=124 potential users) (Output: *Potential Users Survey: A Working Paper for the Evaluation of the National Longitudinal Survey of Children).*

As well, a discussion group was held in Toronto on June 8, 1996. Nine experts participated in the discussion, selected from participants in either the Delphi Panel of Methodologists or the Potential User Survey, and representing expertise in developmental psychology, sociology, economics, epidemiology, justice, education, and social work.

Constraints: Because the NLSCY is a long-term project and data from the first cycle of the survey were not available for this evaluation, this study constitutes Phase I of the NLSCY evaluation, examining process, quality, relevance, need and anticipatory usefulness.

Thus, in addition to providing an initial formative evaluation, Phase I will lay the groundwork for a more summative definitive Phase II evaluation of the NLSCY, which is expected to examine the actual use of NLSCY data.

1.3 Key Evaluation Issues

The specific evaluation questions addressed in this study are:

RELEVANCE

1. To what extent are the mandate and objectives of the NLSCY still relevant?
2. Was the NLSCY properly targeted (all children/youth)? Any gaps in coverage re: topic areas?

3. is there a continuing role for the Federal government to play in collecting data of this nature?

RESULTS

4. To what extent can the creation of the Canada-wide longitudinal and cross-sectional database on children contribute to increased knowledge of: (I) the characteristics of children in Canada? (ii) the processes which shaped their development? and (iii) the development of effective policies and programs for children at risk?

5. Will objectives be met for the cross sectional analysis?

6. To what extent will the NLSCY and associated activities provide new knowledge and increased public awareness regarding conditions of risk faced by children? (Assessment of quality of survey design.)

7. What effects have the activities under NLSCY had on the development of partnerships and cooperation among and with other levels of government, and with the voluntary and private sectors (effectiveness of survey development process)? How is the partnership working out between HRDC and Statistics Canada?

8. To what extent are the various players, stakeholders, and beneficiaries satisfied with the first cycle: (I) processes; and (ii) expected "products" of the NLSCY? What is the overall measure of support for the NLSCY project?

9. What uses (will be? can be?) made of the products from the NLSCY? What will be the end products and data to be released? Feasibility of intended research activity? Has a dissemination strategy been identified?

ALTERNATIVES/COST-EFFECTIVENESS

10. To what extent does the NLSCY and its associated activities complement/ supplement/duplicate that of other Federal/Provincial governments or institutions? Were other existing sources examined prior to NLSCY design?

11. Have appropriate systems been established to coordinate and monitor the activities under NLSCY?

12. Is the NLSCY approach the most cost-effective and appropriate mechanism to produce the information needed to develop programs which would improve the socio-economic well-being for all children and youth in Canada? How can the current mechanism be improved?

1.4 Structure of the Report

This report is comprised of eight sections. Section 1 gives background information on the NLSCY and this evaluation, including the key evaluation questions addressed by this evaluation. Section 2 outlines the evaluation's findings on the relevance of the NLSCY, Section 3 provides the findings relating to the effectiveness of the NLSCY development process and Section 4 presents the findings on the quality and soundness of the NLSCY design. Section 5 describes the results anticipated from the NLSCY while Section 6 discusses the cost-effectiveness of, and alternatives to, the NLSCY and Section 7 examines dissemination strategies. Section 8 provides conclusions for the NLSCY evaluation. All findings throughout the report are related to the specific evaluation questions.

2.0 RELEVANCE AND IMPORTANCE OF THE NLSCY

The evaluation questions addressed in this Section are: *To what extent are the mandate and objectives of the NLSCY relevant? To what extent does the NLSCY and its associated activities complement/supplement/duplicate that of other Federal/Provincial governments or institutions? Were other existing sources examined prior to NLSCY design?*

2.1 Current Canadian Research of Children

A review of key recent Canadian research on children shows that the NLSCY does not duplicate any other Canadian study currently being undertaken or having been recently completed. Other Canadian research tends to have smaller samples; to be regionally rather than nationally based; and to be topic specific. For example:

- the *Health of Canada's Youth Study*, a longitudinal study surveying youth from across Canada on topics relating to health-risk factors (exercise/ leisure time activity, nutrition and dental care, ailments and medications and relationships with others), does not include children of less than 11 years of age, a major emphasis in the NLSCY;

- the *Ontario Child Health Study* (1983, 1987), a cross-sectional Provincial survey which studied the distribution and possible causes of neurosis, somatization, conduct disorder, and hyperactivity, is neither longitudinal, national nor as comprehensive as the NLSCY;

- the *Canada Youth and AIDS Study*, conducted in 1988 to determine the knowledge, attitudes and behaviour of Canadian youth with respect to AIDS and other sexually transmitted diseases, is very topic specific, cross-sectional, and surveys only adolescents. The NLSCY, on the other hand covers a broad range of topics (meaning that NLSCY has the potential to provide longitudinal data on AIDS knowledge and relate it to a wide variety of factors not covered in the Canada Youth and AIDS Study), is longitudinal (so that the knowledge of AIDS can, in theory, be studied over time) and focuses on children as well as youth;

- the *Canadian National Child Care Study* (1988), one of the largest and most comprehensive surveys ever conducted in Canada and designed to address a number of policy relevant issues regarding Canadian families and child care, overlaps very little with the NLSCY. The NLSCY, according to potential users and key informants, does not place emphasis on child care issues. Furthermore, the Child Care Study was a cross-sectional survey, and therefore unable to assess the impacts of child care over time; and
- the *Laidlaw Foundation Children at Risk Programme*, does not overlap with the NLSCY because it does not yet generate original data. In fact, with a budget of $1 million per

year over 5 years to develop new perspectives and strategies to improve the quality of life and opportunities of children and youth, the Laidlaw study promises to be a significant user of the NLSCY results.

The above mentioned studies all differ from the NLSCY, which appears to be unique in its combined characteristics of national sample, broad topic coverage, and longitudinal methodology. No other Canadian study provides such broad longitudinal data on children. Therefore the mandate and objectives of the NLSCY are very relevant. The uniqueness of the NLSCY was seen as resulting from a strong developmental process which included screening existing longitudinal and other research models, with the advice of the Expert Advisory Committee (see Section 3).

2.2 Current Relevance of the NLSCY

The relevance of the NLSCY was clearly indicated throughout the evaluation: data from all research components point to the fact that the NLSCY will be a valuable tool for future research and that it will contribute to the increased knowledge of the characteristics of Canadian children on a national scale. For example:

- over 90 percent of the Potential Users rated the importance of the NLSCY data base for identifying risk factors to children as either very important or somewhat important.[7]
- 100 percent of the Delphi Methodologists agreed that the NLSCY will be useful in producing increased knowledge of the socio-economic and health characteristics of children in Canada.[8]
- 96 percent of Key Informants felt that the NLSCY would be a useful tool in determining risk factors affecting the health and well-being of children and youth.[9]
- Discussion Group Participants all emphasized the importance of longitudinal data in helping to inform policy and develop programs to help benefit Canadian children.

Furthermore, a review of studies similar to the NLSCY in other countries found that many such studies have lasted decades longer than initially intended. For example government (funders) and academics (designer/users) in Hawaii and Britain extended their longitudinal surveys — the

[7] Potential Users were asked to rate the importance of the NLSCY as a data base for identifying risk factors to children as: (1) Very Important; (2) Somewhat Important; (3) Somewhat Unimportant; (4) Very Unimportant; or (5) Don't Know. 100 percent of Delphi methodologists/specialists noted the NLSCY as: (1) Very Important; or (2) Somewhat Important.

[8] Delphi methodologists were asked to rate the potential usefulness of the NLSCY in producing increased knowledge of the socio-economic/health characteristics of children in Canada on a five point rating scale where "1" means "not at all useful", "3" means neither useful nor not useful, and "5" means very useful. The percentage given refers to the number of people giving ratings of 4 or 5. 96 percent of Key Informants gave a similar rating.

[9] Key Informants were asked to rate the potential usefulness of the NLSCY in determining the risk factors affecting the health and well-being of children and youth on a seven point rating scale where "1" means "not at all useful", "4" means neither useful nor not useful, and "7" means very useful. The percentage given refers to the number of people giving ratings of 5, 6 or 7. 100 percent of Delphi Panelists gave a similar rating.

National Child Development Study in Britain and the Kauai Study in Hawaii — after noting the importance of their results, the amount of research being completed using their data bases, and the impact of the new information on the development of more effective social programs. This evidence, combined with the fact that longitudinal data are necessary for the analysis of causal relationships, is supportive of the relevance of the NLSCY's objectives and mandate.

2.3 The Future Relevance of the NLSCY

The likelihood of continued relevance of NLSCY in the future was also clearly indicated throughout the evaluation. Since the main focus of the NLSCY is health and welfare related, and because the data is based on children, it was pointed out that the NLSCY data will always be relevant to Canadian society.[10] In fact, many evaluation participants indicated an expectation that the study will grow in relevance and usefulness over time as more NLSCY longitudinal data becomes available.

[10] 92.8 percent of the Delphi Panelists, and almost all (99 percent+) of Potential Users agreed that the NLSCY will continue to be relevant or extremely relevant ten years from now.

3.0 NLSCY DEVELOPMENT PROCESS

The evaluation questions addressed in this section are the following: *(1) What effects have the activities under NLSCY had on the development of partnerships and cooperation among and with other levels of government, and with the voluntary and private sectors (effectiveness of survey development process)? How is the partnership working out between HRDC and Statistics Canada?; (2) Have appropriate systems been established to monitor the activities under NLSCY?* and *(3) Is there a continuing need for the Federal government to play in collecting data of this nature?*

The Statistics Canada/HRDC Project Team developed the NLSCY in consultation with a wide variety of federal, provincial and academic representatives. An Expert Advisory Group of 16 academics was created in order to provide advice on the key design parameters, consultations were held with provincial government representatives, and an interdepartmental consultation committee comprised of representatives of several federal government departments (Health, Secretary of State, Solicitor General, RCMP, Justice, HRDC and others) provided guidance to the Project Team throughout the development process.

The Evaluation team found that the NLSCY development process generally worked well. There were a broad range of consultations undertaken with the provinces, representatives from other federal government departments and experts in longitudinal studies and child development. As well, a *high level of effort was put forth by the NLSCY staff into developing an effective survey*. However, the development process did face some significant challenges.

3.1 Need for Clearer Goals and Definition of Roles

The Statistics Canada and HRDC Partnership: *One key concern in the developmental process was reported to involve the need for more clearly defined goals and roles for the partner agencies.* Evidence of problems occurring due to this need for clearer goals/roles were found in the Expert Advisory Committee, the HRDC/Statistics Canada Project Team and the Federal/Territorial consultations.

For example, a number of members of the **HRDC/Statistics Canada Project Team** were dissatisfied with the initial process of collaboration between the two departments. Key informants from both departments indicated that one of the major problems was the need for better clarification of the roles of the two departments. This concern extended, in a way, to "ownership" of the NLSCY. These concerns were no doubt amplified because of the two unique interests of the two partner agencies: HRDC's role as principal funder providing scientific and intellectual leadership for the study, and Statistics Canada's specific role in the design and conduct of the field research methodology and generation of statistics (and its unique related legal responsibilities under the *Statistics Act* for the study's statistical appropriateness, for its reliability and for its availability in the public domain).

In this vein, it was suggested, for example, that Statistics Canada staff tended to consider the NLSCY to be "their" survey, and therefore found it difficult to accept the fact that the funding and therefore the responsibility, for the NLSCY, was mainly provided by HRDC. These

differences in perspective seemed to stem primarily from a lack of clarity in the original interdepartmental understandings and objectives for the study.

It is important to note, however, that more recently (since several committees were created to reorganize the structure of the project), the working relationship between HRDC and Statistics Canada has been strengthened and roles have been made clearer.

Some expert advisors [11] who were interviewed for the evaluation indicated that the lack of a strong vision of the potential uses of the NLSCY, the policy interests the NLSCY should serve, or the public education purposes the NLSCY should be directed toward, resulted in information gaps in subject areas which were not represented among the expert advisors. Concern was also expressed by one key informant that there was no clear expression of "what the government wanted to know" about children.[12]

Territorial representatives in the **Federal-Provincial/Territorial Consultations** also found some aspects of the NLSCY process to be frustrating. The Territorial representatives, unlike their Provincial counterparts, were involved in integrating the National Population Health Survey (NPHS) and the NLSCY in order to produce a single survey to be administered in the Territories, meeting the needs of the Northern communities. Territorial representatives reported being frustrated with the lack of communication between those in the federal government working on the Territorial component, the number of Ottawa contacts with which they had to deal, and the lack of a consistent view of the NLSCY among those contacts.

3.2 Time Constraints

Time constraints in the NLSCY developmental process were also noted as a major problem by some key informants. Some HRDC key informants expressed disappointment with the lack of time and money to consult more frequently with the Interdepartmental Consultation Committee and the Provinces/Territories. Some expert advisors also regretted that time constraints meant that older children's issues did not get as much attention in their meetings.

Overall, it was felt by many key informants that tight time lines did not allow those developing the NLSCY to participate in a proper developmental consultation process. *Provincial/Territorial* informants, for example, felt that the consultations with the provinces were, in reality, only information sessions because of the deadlines faced by the NLSCY staff. Representatives of several provinces reported being frustrated by the fact that most of their suggestions for modifications to the survey design were not implemented due to time constraints.

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[11] Some of the same concerns were re-iterated by the discussion group participants. Many participants in the discussion group felt that it was difficult to make important methodological suggestions regarding the NLSCY's content sampling, and data collection because the articulated goals of the NLSCY are very general.

[12] This key informant did not believe that these gaps were the result of NLSCY staff decisions. On the contrary, this informant saw the staff as caught between "a rock and a hard place." They were seen as having to deal with too many agendas that differed between disciplinary objectives, the provinces and the federal government, and between different Federal departments. Frustration was also expressed by some key informants over the fact that responsibilities between HRDC and Statistics Canada were unclear to the Expert Advisory Group, and that because it was not known who would be making the decisions, it was hard (for expert advisors) to know who to present concerns to.

Tight deadlines may have also contributed to strained project working relations between HRDC and Statistics Canada. Key informants from Statistics Canada, for example, reported that it was difficult to satisfy the communications needs of HRDC when they were already overworked. Tight time schedules also caused problems for the Territorial representatives who faced a key deadline for the integration of the NPHS and the NLSCY just days after they received the final NLSCY questionnaire.

3.3 Satisfaction with the NLSCY Developmental Process

In spite of specific stresses related to interorganizational relations and times pressures, these results — overall satisfaction in the face of many stresses — appear to point not to a contradiction, but rather to a high level of support for the survey and value, which participants rated highly. Key informants reported that they were, for the most part, satisfied with the overall NLSCY development process. For example:

- All key informants who participated in the Interdepartmental Consultation Committee were satisfied (to varying degrees) with this process of consultation and collaboration. In general, it was found that the input provided by the members of the committee was most helpful to the NLSCY staff in the initial development stages for feedback and for prioritizing ideas. Furthermore, members of the Interdepartmental Consultation Committee reported that they appreciated being kept up to date on the NLSCY 'news' by the NLSCY staff.

- HRDC key informants were positive about the input they received from the members of the Expert Advisory Group. Similarly, the experts themselves were satisfied with the consultation process in the development of Cycle I of the NLSCY. However, they also noted suggestions for improvement, which were mentioned above.

- *Federal* key informants were satisfied with the collaborative process of the Federal/Provincial/Territorial consultations, although Provincial/Territorial representatives were less satisfied.

The HRDC and Statistics Canada managers of the project have established a variety of reporting mechanisms and publications and have provided regular feedback to participants in the NLSCY process. Continued development of these mechanisms, particularly as regards ongoing information for participating federal departments, and the Provinces/Territories should be emphasized.

3.4 Role of the Federal Government

Almost all those consulted in the evaluation agreed that the Canadian government should play a major role in collecting data such as that collected by the NLSCY, and interpreting its policy

significance and implications.[13] A variety of reasons were outlined explaining the importance of the government's role in collecting national longitudinal data on children, including that:

- the NLSCY is national in scale;
- longitudinal studies require secure funding rarely available outside of government; and
- institutions often outlive individuals and government involvement can guarantee the survival of a longitudinal study long after the original principal researchers have changed employment, retired, etc.[14]

The Canadian government, therefore, was seen by most evaluation participants as the preferred organization for overseeing a study such as the NLSCY.

Thus, according to Key Informants and Potential Users, the specific role of the Federal government in longitudinal studies such as the NLSCY should generally include funding; leading and coordinating the research; facilitating dissemination of the data; supporting research which is to be done using the data;[15] and implementing relevant policies and processes.

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13 Over 99 percent of Potential Users and all of the Key Informants felt that the Federal government should collect such data.

14 The importance of an organization providing stability for a longitudinal survey is clearly outlined through the experience of the National Child Development Study (NCDS) in Britain. The British study had numerous problems with high staff turnover. The study has survived, however, because the same central institution has overseen the study since its inception in 1958.

15 However, some Key Informants suggested that to maximize independence, studies of this nature should be contracted out by the government to non-government or non-profit bodies.

3.5 Summary

The development of the NLSCY was generally regarded as a positive process in spite of many areas for improvement noted. Key Informants were generally satisfied with the development process, even if they reported problems. Notably, a number of Key Informants reported the high level of effort on the part of the NLSCY staff to develop an effective survey. As well, almost all those consulted felt that the federal government's role in collecting data of this nature was appropriate.

4.0 QUALITY OF NLSCY DESIGN

4.1 Methodological Issues

Unique problems and pressures affect longitudinal studies because of the extended period of time over which data is collected in comparison to cross-sectional studies. The more common problems, according to the broader international literature, and some of their possible implications for the NLSCY are briefly described below.

4.1.1 Lessons Indicated From the Literature

Goals: The success of a longitudinal study is dependent on the careful planning of the study. Since any mistakes in the planning phase can have serious repercussions in later cycles of data collection, it is important for researchers to clearly define their long term goals. Determining the goals will ensure that proper choices relating to measurement instruments, timing between data collection intervals, etc. can be made. The clear identification of the NLSCY's goals and priorities, therefore, is of prime importance so that the most appropriate choices for future modifications or additions to the survey can be made.

Financial Planning: Ensuring guaranteed funding for a longitudinal survey in its early stages can be challenging. Researchers must hope that funding agencies do not get impatient for results, which may take years to produce.[16] Furthermore, if a longitudinal study is financed publicly, researchers must rely on a steady state of neutral or favourable attitudes among the general public and governments.[17]

The evaluators conclude, therefore, that one important step in ensuring continued funding for the NLSCY, would be to heighten its public profile, which would subsequently increase the NLSCY's usage and the value of the NLSCY as an important governmental initiative.

[16] Loeber and Farrington, p. 892

[17] Svalastoga, p. 187.

Obsolescence of Data in Longitudinal Research: One danger in longitudinal studies is that the issues studied, and the measures and theories used, may become obsolete over the course of the study. In order to guard against this, many authors suggest that longitudinal research should be theoretically broad-minded, and even in many cases, eclectic. These writers suggest that it is dangerous to pursue a narrow-minded theoretical approach in longitudinal research because the design of the study, the choice of variables, and the construction of indexes based on the theory may all become obsolete.[18] "Theories are transitory, but good longitudinal data are not."[19] The NLSCY mirrors this advice as it takes guidance from many theoretical perspectives. The literature also emphasized the importance of recording data in its raw form so that it can be recoded and used in a meaningful manner years from the initial collection of the data.[20] This ensures the usefulness of the data even if the original theories become outdated.

Longevity: The literature suggests that researchers should prepare to deal with problems related with the longevity of longitudinal surveys. In particular, short-term uses for the data should be planned, plans should be made to deal with staff turnover, and general data relevant to the topic(s) of study should be collected so that work with related topics will be possible even if the original theoretical premises become obsolete. The evaluation team found evidence that many of these suggestions taken from the literature were being followed by the NLSCY.

Children's Non-Response: A problem related to overall attrition occurs in the interviewing/ testing of children for longitudinal studies. Researchers have found that it is difficult to keep children motivated for long periods of time. Furthermore, some children refuse to participate in the various tests and activities, or answer questions due to shyness, etc. Therefore, researchers are left with 'non-responses' or 'partial responses'. The question remains as to how to deal with the data in such situations. These children cannot be classified as non-participants, yet incomplete data may be collected for them.[21] No information on the extent of this problem is currently available for the NLSCY's implementation of the PPVT and the Math test.

Interviewer Effects: Interviewer effects refer to the different ways in which the interviewer, as a person, can affect the responses obtained from the person(s) being surveyed. The way in which questions are asked, how the respondent is treated by the interviewer, the rapport between the interviewer and interviewee, and other such factors, all influence the answers obtained from respondents in interviews. The degree to which an interviewer can affect the responses is also determined by the kind of questions asked, with the effects diminishing for simple factual questions.[22]

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[18] Bergman, p. 25.

[19] Bergman, p. 25.

[20] Griffith, pp. 13-14; Bergman, p. 25.

[21] Schneider, pp. 327-328.

[22] Bergman, p. 22; Murphy, p. 152.

Interviewer effects, of course, are present in most surveys, and are not unique to longitudinal surveys. However, interviewers can have a greater influence on the data in longitudinal surveys in that they can affect attrition in later rounds, as well as the respondent's general feelings towards the survey and the survey topic. Generally, it seems likely that use of Computer Assisted Personal Interview (CAPI) technology in the NLSCY may have reduced interviewer effects, but this is yet to be determined. The evaluators noted that more research in this area may be desirable for the NLSCY.

Confidentiality Issues: The literature suggests that there are three main aspects of confidentiality of concern to longitudinal studies: the release of individual level data to third parties; the linkage of interview data to other records; and the methods used to contact individuals for subsequent interviews.[23] These are of special concern for the NLSCY because of the complexity of the data (providing more data points for potential identification of individuals) and because of the wide demands which are likely to occur for detailed micro-data files.

Potential controversy resides in the fact that some participants in longitudinal studies may find that the storage of personal information over long periods of time, or the methods used (i.e. searching records) to locate them for subsequent rounds of data collection, are a potential threat to their privacy. Researchers, on the other hand, have a 'duty' to perform good research based on solid data. This means reducing attrition and maintaining raw data for recoding to guard against the obsolescence of the study. The competing concerns of the researchers and respondents must be appropriately balanced for the success of the longitudinal study.[24]

Ethics Committee: The literature suggests the value of an ethics committee for longitudinal studies. Such a committee may be desirable and could be responsible for ensuring that a balance occurs between the respondents' need for privacy and the researchers' need to produce reliable and useful data. The committee could also deal with controversial issues such as the handling of suspected child abuse cases. In the case of the NLSCY, the *Microdata Release Committee* deals with some of the above mentioned concerns. The handling of suspected child abuse cases, on the other hand is the responsibility of the Chief Statistician. Closer examination of these issues may be an area of concern for NLSCY in the future.

4.2 Strengths and Weaknesses of the NLSCY Survey Design

The evaluation questions addressed in this sub-section are: *To what extent will the NLSCY and associated activities provide new knowledge and increased public awareness regarding conditions of risk faced by children? (Assessment of quality survey design); and To what extent are the various players, stakeholders, and beneficiaries satisfied with the first cycle: (I)*

[23] Murphy, p. 151.

[24] Bergman, p. 28; Farrington et al. p. 144.

processes; and (ii) expected products of the NLSCY? What is the overall measure of support for the NLSCY?

4.2.1 General Strengths and Weaknesses

In general, participants in all components of the evaluation were satisfied with the NLSCY survey design. Most importantly, the majority of the Delphi Methodologists (86.7 percent), rated the overall soundness of the NLSCY design favourably.[25]

Strengths: The most frequently mentioned strengths of the NLSCY include:[26]

- the longitudinal aspect of the NLSCY;
- the national level information provided by the NLSCY;
- the sample size (including, according to some respondents, a large enough sample size in the future Territory of Nunavut to be relevant for policy-making decisions in that Territory); and
- the breadth of information provided by the NLSCY.

Other strengths of the NLSCY which were mentioned included the fact that the NLSCY makes Canada a major contributor to child research internationally; that the NLSCY obtains data form multiple sources; that it covers children across a critical age range; and that the NLSCY uses the Labour Force Survey as a sampling frame. However, Delphi panelists nevertheless noted a number of weaknesses, some of which are discussed in further detail later in this report.

Weaknesses and Limitations: Weaknesses of the NLSCY design/approach of a general nature which were identified include:[27]

- the exclusion of Aboriginals living on reserve, children living in institutions, and recent immigrant children;[28]

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[25] Delphi panelists were asked to rate the overall soundness of the NLSCY design on a five point rating scale where "1" means "not at all sound", "3" means "average", and "5" means "very sound". The percentage given refers to the number of people giving ratings of 4 or 5.

[26] Refer to Reports on the Key Informant Interviews and the Delphi Panel Survey of Methodologists for more detail on less frequently mentioned strengths of the NLSCY which are not listed here.

[27] Weaknesses which relate to specific measures are addressed in great detail in the Working Report on the Delphi Panel Study of Methodologists. Please refer to the Working Reports on the Delphi Panel Study of Methodologists and the Key Informant Interviews for general weaknesses which were mentioned by small numbers of respondents.

[28] It is important to note that while recent immigrant children are included in the original cohort samples, those who immigrate to Canada during the study time period will not be included. For example, the NLSCY children were sampled in 1994, and this sample includes all children in Canada at this time, including immigrant children. However, this sample would not include immigrant children who move to Canada in 1995.

- that while the NLSCY's national sample size is a strength, Provincial sample sizes are too small to conduct analyses for specific age groups at the Provincial level;
- that the NLSCY uses sub-components of standardized measures, requiring after-the-fact assessments of measure reliability/validity;
- that only one person responds to the parenting section of the interview, usually the mother, meaning that there is very little information gathered on parenting styles of fathers (this concern was expressed by Delphi Panelists only);
- that some age cohorts are being included at later age levels rather than from birth. Therefore no longitudinal data will be available to cover their earlier years of life (this concern was expressed by Key Informants only);
- the survey is too long (this concern was expressed by Key Informants only);
- that the NLSCY does not have concrete plans to follow the children into their twenties (this concern was expressed by Delphi Panelists only); and
- the potential that the greatest attrition rates will be among the highest risk groups (this concern was expressed by Delphi Panelists only).

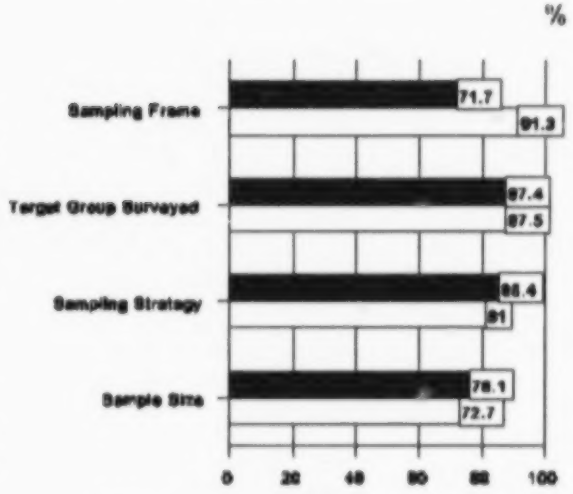
4.2.2 *Sampling*

There are a variety of sampling methods suitable for a national longitudinal study of children, each providing certain advantages and disadvantages. For example, the National Child Development Study (NCDS) in Britain studied all children born within the same week in March 1958. This choice of sampling frame meant that the NCDS sample would always remain representative: original non-participants who were born during that week in other parts of the world and who subsequently moved to Britain have been and continue to be included in the survey in subsequent rounds of data collection.

In contrast, the American National Longitudinal Survey of Youth (NLSY) method of sampling all those within a specific age group in a household, rather than individuals of the same age group at random, allows relationships between siblings to be studied. It also means that researchers are provided information on how different individuals react to the same familial environment. Some of the NLSY's approaches are reflected in the NLSCY.

The NLSCY's choice of sampling frame and strategy was generally highly rated by both Delphi Methodologists and Potential Users (see Table 4.1). Some suggestions for improvement, such as adding to the NLSCY's original sample in subsequent rounds of data collection to ensure the sample's continued representativeness of the Canadian population, are reflected in the lessons learned from the NLSY, the NCDS, and other Canadian and international longitudinal studies. Below, general comments and suggestions for improvements on various aspects of the NLSCY's sampling strategy are outlined.

Table 4.1
Good to Excellent Ratings of Certain Aspects of the NLSCY Research Methodology*



* A five step rating scale was used where 1 = poor, 2 = fair, 3 = adequate, and 5 = excellent. The percentages shown were obtained by totalling the proportion of respondents indicating 4 and 5.

Target Group Surveyed: The evaluation found that while evaluation participants generally agreed with the definitions of the target group surveyed by the NLSCY, the importance of following the children longitudinally past their late teens or early twenties was emphasized. While the NLSCY does in fact plan to follow the children into their twenties, concern was expressed that perhaps the longitudinal time frame of the study may be shortened due to budget cutbacks. Over 83 percent of the Delphi panelists felt that the usefulness of the NLSCY data would be compromised very seriously or somewhat seriously if the NLSCY children are not followed longitudinally past their late teens or early twenties.

Delphi participants felt that the effects of childhood experiences, education, parental investment (time and money) into their children, and other experiences cannot be fully measured if the children are not followed longitudinally into adulthood. The evaluation discussion group participants, on the other hand, suggested that the children should be followed until a minimum of the age of 21. They also emphasized, however, the importance of following the children past that age (perhaps at less frequent intervals) if funds are available.

In fact, experience from the Kauai longitudinal study (in Hawaii), and the NCDS indicates the importance of the information obtained from the children once they reach adulthood. Neither of these studies had intended to follow their cohorts into adulthood. However, their studies have lasted much longer than originally anticipated, in no small part due to the anticipated (and subsequent) wealth and richness of the data collected from their adult respondents.

Sampling Frame: While the majority of evaluation participants were satisfied with the NLSCY sampling frame, a significantly higher number of Potential Users of the NLSCY (28.3 percent) were dissatisfied with the survey's sampling frame than Delphi Panelists (8.7 percent). Many Potential Users were concerned about what they saw as the sampling frame's obvious omissions, namely Aboriginal children living on reserve and institutionalized children. It was also noted that the Labour Force Survey (LFS) sample frame also does not capture the children who are most at risk such as those in homeless or transient families and makes it difficult for the NLSCY to over-sample certain key populations, such as infants.

Key Informants were also concerned that LFS respondents have been over-surveyed. The literature shows that repeated surveying may be a concern because of its potential to affect the

answers which are provided by the respondents. On the one hand, repeated interviewing generally produces respondents who feel more relaxed and at ease with the interview process, thereby lessening inhibitions and thus improving the quality of responses.

On the other hand, previous interviews may have also heightened the awareness or interest of the respondents in a particular topic,[29] thereby lessening the representativeness of the cohort. It would be desirable to determine to what extent, if any, these types of effects will be manifest in the NLSCY as subsequent cycles of the survey are completed.

Finally, a weakness in the sampling frame which was noted is the possible need for over-sampling of non-Aboriginal respondents in the Yukon and the Northwest Territories. The non-Aboriginal NLSCY respondents residing in the Territories comprise roughly 40 percent of the Territorial population, but are highly mobile. This means that this portion of the Territorial sample (that is the non-aboriginal sample who remain in the territories) will almost certainly deteriorate over the years in which the NLSCY is conducted. Those who are sampled in the territories, and who do move south, will continue to be followed by the NLSCY.[30]

Sampling Strategy: The literature emphasizes that over time, the sample of a longitudinal study becomes less and less representative of the general population due to attrition,[31] emigration and immigration. The literature suggests that loss of representativeness due to immigration can be easily remedied through supplementing the cohort with a "judicious sampling of the new immigrants."[32]

The loss of representativeness due to attrition is less easily remedied, and a particularly important concern since those who drop out of surveys are not generally representative of all of the subjects.[33] American studies have shown that those who drop out tend to be more anti-social and deviant (of particular concern to those wanting to research issues in criminology and psychopathology). Furthermore in American studies, drop-outs tend to be disproportionately non-white, of low socio-economic status, and delinquent."

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29 For example, it has been found that those interviewed about a specific election have higher voter turn-outs than those who were not interviewed.

30 Unique follow-up and tracking procedures may be needed to follow such highly mobile populations.

31 Janson, p. 34.

32 Griffith, p. 14.

33 Menard, Magnusson and Bergman, Murphy, Farrington et al., Waterton and Lievesley

34 David P. Farrington, Bernard Gallagher, Lynda Morley, Raymond J. St. Ledger, and Donald J. West. "Minimizing Attrition in Longitudinal Research: Methods of Tracing and Securing Cooperation in a 24-year Follow-up Study" in *Data Quality in Longitudinal Research* by David Magnusson and Lars Bergman (eds.) Cambridge: Cambridge University Press, 1990, p. 124.

British-based research, however, differs from American studies in that it shows that respondents of lower socio-economic classes are less likely to refuse to be interviewed than those of higher socio-economic classes. This is attributed to the fact that those of lower socio-economic status are more used to dealing with various agencies, such as housing, social services, and social security officials, who frequently seek information.[35]

For the most part, the Delphi Panelists felt that steps should be taken to ensure the sample's representativeness:[36] 72.2 percent of the Delphi panelists felt that the fact that the NLSCY's sample is expected to become less representative of the Canadian population as the study progresses will compromise the utility of the data in the future. Furthermore, close to 90 percent of the panelists felt that it was either very important or somewhat important for the NLSCY to add to its sample in order to maintain its sample's representativeness.

However, some Delphi Panelists argued that the utility of the data would not necessarily be compromised if the sample becomes less representative over time since the original NLSCY sample is large enough to account for attrition. It was also argued that if care is taken to measure the nature of the bias, if any, the utility of the data would not be compromised. It was suggested that any small biases can be handled by re-weighting during analysis of the data.[37]

Sample Size: The literature generally indicates that the ideal sample for longitudinal studies is that of large population birth cohorts, such as that of the NLSCY. Large cohorts allow researchers to generalize their conclusions to the population as a whole and estimate incidence and prevalence rates for almost all human attainments and afflictions.

Further, *large samples offer the possibility that data can be used for reasons totally unforeseen at the inception of the project.* Large samples also offer more complete sampling: in other words they include individuals who later become institutionalized or who die. Such individuals are not included in typical cross-sectional studies. Moreover, in large general population samples, disorders and non-deviant behaviours emerge naturally, thereby eliminating the need to select appropriate control groups.[38]

Delphi Methodologists, Key Informants and Potential Users all tended to agree that one of the NLSCY's strengths is its large national level sample. However, concern was expressed that the Provincial samples were not large enough to permit regional or Provincial breakdowns by age

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35 Murphy, p. 154. See the working report on the Review of Literature for more details on attrition, its causes, its effects, and its remedies.

36 One method of maintaining representativeness, it was suggested, is by reducing attrition since non-respondents tend to differ from survey respondents. Literature from other longitudinal studies suggest that efforts should be taken in early rounds of data collection to collect as much information as possible, including names, addresses, and phone numbers of close friends, neighbours, and the family of the respondents for the purposes of locating them in the future. Furthermore, an annual mailing, which could include a greeting card of some sort as well as a postage paid envelope that the respondent could return if he/she has moved, is suggested in order to help reduce attrition rates.

37 As shown in the literature, one advantage of longitudinal studies is that response bias can be checked by using data from earlier stages and comparing the attained sample of any survey to the target sample. Such results have been reassuring in other longitudinal studies such as the NCDS.

38 Loeber and Farrington, p. 891.

groupings, and that the sample size may be too small for examining specific types of children (e.g. those affected by divorce).

Thus, it was suggested that larger samples are needed in order to make analysis possible at the Provincial level where specific interventions are planned and carried out through Provincial programs. The potential usefulness of the NLSCY for policy and planning in the Provinces is hindered by the current sample limitations.[39] Furthermore, discussion group participants stressed that the NLSCY could provide important information on public policy and its effects on children if the provincial sample sizes were to be enlarged.

Discussion group participants further explained that since provinces introduce variations in social policy, the NLSCY could allow researchers to contrast and compare the variations to find out which policies tend to be the most effective and why. Current sample limitations, however, may limit such analyses.

Informants with experience using the National Child Care Survey suggested the importance of sufficient data at the Provincial level. The National Child Care Survey found substantial Provincial differences. Because of the unexpected wealth of information encountered with the Provincial data in the National Child Care Survey, these researchers underlined the need to collect enough data on Provincial differences (by increasing provincial sample sizes), so that the possibility of contrasting and comparing provincial differences can be maximized.

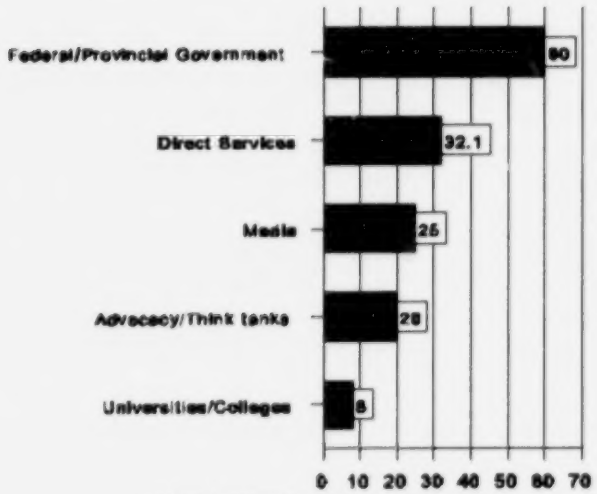
In contrast to the views directly above, results from the Potential Users Survey show the lack of provincial data from the NLSCY is not a major concern for those people who do not work for a provincial government. Sample size is only seen as an obstacle to use by Federal/Provincial government users, and not by direct service providers or others (see Table 4.2, next page). This may mean that the lack of Provincial breakdowns in the NLSCY data may only significantly hinder the use of the data by Provincial governmental departments, and may not compromise the use of the data by others, such as academics or community programmers.

[39] It is important to note, however, that the provinces were offered the possibility of buy-ins into Cycle I to augment their sample size. None of the provinces accepted this offer.

Table 4.2

Percentage of Potential Users by Type* for whom the NLSCY Sample Size is an Obstacle

%



* Direct Services indicates Boards of Education, Hospitals, Municipalities, Child Welfare

Discussion group participants suggested an alternative method of sampling in order to increase the sample sizes in the smaller provinces. Since the number of cases in each province, and not the number of respondents as a percentage of the Provincial population, determines the reliability of the data, the NLSCY may want to sample (in future rounds) to ensure that there are enough cases per province (a minimum sample) for reliable estimates to be produced. For budgetary purposes, a trade-off may have to be made between the sample sizes of the larger provinces (i.e. decreasing them) and that of the smaller provinces (i.e. increasing them). Evaluation participants noted that this would not affect the quality and usefulness of the data in provinces such as Ontario, but would greatly enhance the usefulness of the data in smaller provinces.

4.2.3 *NLSCY Data Collection Methods*

Evaluation participants (methodologists, users) generally approved of the NLSCY data collection methods. Listed strengths of the data collection methods by the Delphi panelists included the use of personal home interviews; the variety of informants consulted on each child; and the use of both personal interviews and self-report questionnaires. Nevertheless, a few data collection issues were identified and are explained in detail below.

In school component: Certain difficulties with the in-school data collection for Cycle I of the NLSCY were recounted by the key informants. *Non-response was a key problem for the In-School Component of the NLSCY*, according to a number of key informants. While parts of the survey were extremely successful (for example, the in-school teacher's component, which achieved a response rate of 82 percent), the cumulative impact of non-response in the many in-school study components greatly reduced the overall response rates. Thus, the In-School Component ultimately had only 57 percent the response rate of all those who participated in the household survey.[40]

[40] Statistics Canada is currently conducting an in-depth non-response evaluation, and one informant stated that the preliminary results from this study show that there is a bias problem in the in-school component. No significant biases exist, however, in the other components of the NLSCY.

It has been noted that some of the non-response was the result of the CAPI computer application not including the parental consent form to implement the In-School component. Consequently, many consent forms were forgotten or not completed. Other reasons mentioned for the in-school non-response include school board and teacher refusal to participate, which compounded the impact on non-response.

This was predicted by one Delphi panelist with experience in school surveys. This panelist suggested that mail data collection methods would likely not obtain high response rates from teachers and principals. This panelist recommended conducting personal interviews with the teachers and principals in order to obtain higher response rates, noting that this method worked considerably better in the panelists experience.

Participants in the evaluation discussion group re-iterated the difficulties involved in obtaining reliable data and good response rates from teachers. They mentioned that in personal interviewers, teachers are often reluctant to give up their time and thus many of them give quick answers in order to end the interview as soon as possible. One evaluation participant summed up her experience with teacher surveys in the following way: "The results were not worth the money and the effort we put into it." Another evaluation participant suggested that it may be even harder to collect data from teachers of older children than from primary school teachers. In the Ontario Child Health Study, the researchers found that secondary school teachers felt that they did not spend enough time with the children in order to provide appropriate assessments. Non-response rates in that study were high.

Because the importance of the in-school component was acknowledged, as well as the difficulties in obtaining information from teachers, a variety of alternatives were suggested. For example, it was suggested that letters from the school boards and the Provincial Ministries of education, and a high media profile could help boost future response rates. It was also suggested that in future rounds of data collection, interest surrounding the NLSCY can be built by distributing summaries of the results of the previous round. Eliciting the support of the parents may also help: parents' associations raise money for the schools, and some have influence with the local school board. Therefore, if the parents feel that the NLSCY is an important initiative, then the teachers and principals are more likely to respond to the surveys.

It was suggested that participating teachers be offered a copy of a report with results from the in-school component of the NLSCY as an incentive to completing the questionnaire. It was also suggested that important information could be obtained from children's school records if the in-school component cannot achieve good response rates. School records could include school grades, teacher's remarks, attendance records, etc. It was noted that school records differ from school to school, and from teacher to teacher and that some records are very detailed, while others contain the minimum of information. However, it was noted that minimum information (grades, attendance, class size) is vital information for the NLSCY to collect.

Survey approach for 10-11 year olds: One topic of controversy for the Delphi Panelists was whether or not 10-11 year olds should be interviewed or asked to complete a questionnaire. About 45 percent of the panelists felt that a questionnaire and an interview should be

administered, while the remainder of the panelists were evenly split between favouring the administration of a self-completed questionnaire versus a personal interview.

CAPI: On a practical issue, key informants interviewed by the evaluators noted that *there were problems with the CAPI computer system that was used to record the interviews*. It is reported that initially, the system was slow, and that the computer itself made interviewer rapport with the respondents more difficult. However, key informants noted that the interviewers did learn to make use of the 'dead time' created by the computers. The problem has been addressed for Cycle II in that faster computers will be used for data collection. In the Territories, CAPI was not used, meaning that questions had to be redesigned for use in "paper and pencil" interviews.

Interview Length: *The length of the NLSCY household interview was another problem that interviewers encountered.* While the average NLSCY household interview lasted two hours,[41] key informants mentioned that some Cycle I interviews took up to four hours if there were a number of children living in the household. Furthermore, if the children frequently interrupted the interview in order to get their parents' attention, a longer interview resulted.

4.2.4 *Survey Instruments*

In general the NLSCY survey instruments were highly rated by evaluation participants. As one Delphi Methodologist noted: "The questionnaires included in the NLSCY are generally well thought out and broad in their coverage, and the developers are to be congratulated on their efforts here."

However, almost everybody who praised the NLSCY also had suggestions for improvement. Approximately half of the Delphi panelists felt that it would be beneficial for the NLSCY to collect qualitative data, although some acknowledged that it is not feasible to do so. Others felt that children younger than 10 years of age may be able to provide their own information on a variety of issues. This suggestion was not held as a priority by Delphi panelists as relatively few of them suggested that they would allocate money to questioning younger children. Many Delphi panelists however did provide suggestions to improve specific measures, and these are outlined in the Working Report of the Delphi Panel Study of Methodologists.

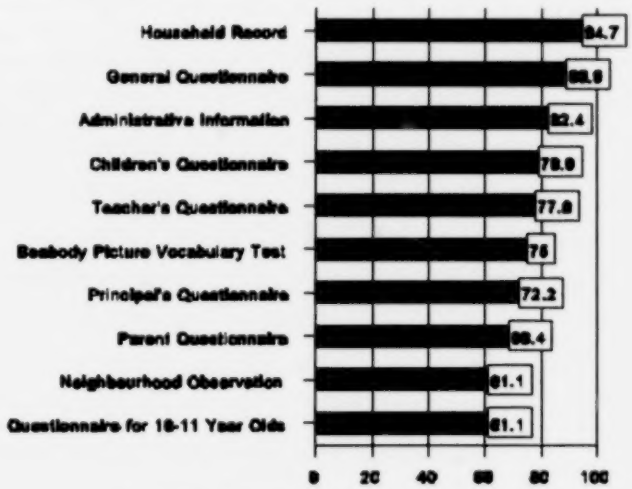
Table 4.3
Good-to-Excellent Ratings of the NLSCY on the Survey Instruments by the Delphi Panelists*

	%

[41] The average interview times include interruptions

* A five step rating scale was used, where 1 = poor, 3 = adequate, and 5 = excellent. The percentages shown were obtained by totalling the proportion of respondents indicating 4 and 5.

Several of the evaluation discussion group participants suggested that fixing or validating the existing measures should be one of the NLSCY's main priorities for improving the survey. *Without improving the measures, or testing their validity, they argued, the NLSCY may lose much of its usefulness.* It was emphasized by some of the participants, for example, that the psycho-social measures may be in need of improvement. As one assessed the measures: "right now they are a hodgepodge of items that haven't been selected from larger measures with any real thought or on any empirical basis, and (this) threatens the meaningfulness of what these items really mean." For example, the CESD measure used in the NLSCY measures dysphoria (feeling sad), not depression (as stated), and was shortened arbitrarily, according to one Delphi panelist. Self concept measures were also deemed to be shortened (in the view of one panel participant) "arbitrarily", potentially compromising the usefulness and the validity of the data obtained from this measure. It was suggested that "we might have nothing" from the NLSCY on the above mentioned issues if the measures are not improved.



Improving or expanding measures that already exist in the NLSCY would likely be cost-effective, according to the Discussion Group participants. Most of the changes, according to the participants, require minor modifications (inexpensive to implement) and would greatly enhance the usefulness of the data. For example, adding non-traditional religion/spirituality and medicine to the questions dealing with these topics would provide very interesting data, yet would require very little effort.

Likewise, participants felt it would be inexpensive to include full self-concept and CESD measures, add a reading measure, and make other similar improvements. The data that these improved measures would provide "would be incredible", one evaluation participant noted. Without the improvements, however, these evaluation participants emphasized that the NLSCY risks reduced usefulness.

Another concern noted by some key informants was also that certain measures in the NLSCY such as the Peabody Picture Vocabulary Test and family functional measures were culturally biased and therefore not appropriate for a culturally diverse country such as Canada. [42] Note: as of writing this report, the evaluators were advised that related tests of validity and reliability were under way, being conducted by Statistics Canada.

[42] Other key informants and Delphi panelists disagreed that the PPVT was not appropriate and suggested that the use of the PPVT be expanded to all age groups in order to increase comparability of results between cycles.

Finally, the negative tone of certain instruments were seen as a weakness by some key informants and Delphi panelists. Some 62.5 percent of Delphi panelists, for example, felt that adding emphasis on positive influences in a child's life was needed to improve the general content of the NLSCY. In a related vein, several Delphi panelists suggested that the neighbourhood observation was overly negative, and that positive, subjective items should also be included.

4.2.5 *Comparability Between Cycles*

According to the literature examined for the evaluation, standardization of measurement over the course of a longitudinal survey is important to ensure that the differences in findings between data collection cycles reflect true changes and not merely differences in measurement. Variations in the way the questionnaire is administered by the interviewer, differences in the questionnaire itself, or biases of the interviewer (reflected in their observations), etc. have to be eliminated or controlled for.

At times, however, lack of standardization in data collection across time is inevitable. For example, changes in life realities must be reflected in the questionnaire. A seventeen year old who is asked about his/her family would answer the questions in reference to parents and siblings while a 27-year old may answer the same questions in reference to his/her spouse, and children. Lack of standardization across data collection cycles may also relate to the emergence of new hypotheses during the study time-period.[43] Thus, the literature warns that care must be taken in longitudinal studies to document any measurement changes, and to determine within- and across-age consistency.

Delphi panelists applied these same perspectives in their assessment of the NLSCY. Not only did they suggest that the measures be kept as consistent as possible throughout the study, but several of the panelists suggested that certain measures, such as the Peabody Picture Vocabulary Test (PPVT) and the Math Tests be included for all age groups so that comparability of measures could be heightened.

Similarly, some panelists suggested that efforts be made to ensure that the person answering the questions on behalf of the child generally be the same throughout the study, especially when there are joint custody arrangements.

[43] Menard. p. 34-35; Elder et al. p. 906.

5.0 RESULTS ANTICIPATED

5.1 New Knowledge

The evaluation question specifically addressed in this section is: *To what extent can the creation of the Canada-wide longitudinal and cross-sectional database on children contribute to increased knowledge of: (I) the characteristics of children in Canada? (ii) the processes which shaped their development? and (iii) the development of effective policies and programs for children at risk?*

Not surprisingly, the evaluators found that it is generally expected that the NLSCY will generate new knowledge about all aspects of children's lives.[44] For example, when asked if the creation of the longitudinal data base will contribute to the development of effective policies and programs which will reduce the conditions of risk for children, key informants interviewed by the evaluators agreed unanimously that the kind of data that the NLSCY will provide is fundamental and of the utmost relevance to the understanding of children. Delphi panelists reiterated the same view: 13 out of the 19 panelists who answered the survey question, felt that the NLSCY's potential will be good to excellent in achieving these objectives with its present design.[45] The most new knowledge expected to be developed by the NLSCY would be by:

- expanding knowledge on known risk factors, in part by confirming some factors as contributing to "at risk children" and negating other factors as "risk" factors;
- identifying factors which reduce or increase risks to children;
- providing rich information on the relationship between risk factors, and the cumulative effects of risk factors; and
- providing important new knowledge on positive factors in the development of children.

One Delphi Panelist summed things up in a general way by emphasizing that research to date has focused on finding the effects of one risk factor at a time on child development. The panelist pointed out, however, that the effects of a combination of risk (and other) factors have yet to be studied. With numerous risk factors being studied in the NLSCY, it can be determined which factors, or combination of factors, pose the most risk. Therefore the NLSCY will allow researchers to evaluate more than one cause at a time. : "In short, we will be able to move away from the single cause mentality and inspect a variety of variables in different contexts."

Another important way the NLSCY is expected to expand existing knowledge is simply by providing the first national and longitudinal information of children in Canada — a benchmark indicator on the status of Canada's children

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[44] For more information on specific areas of new knowledge which were mentioned by the Potential Users and the Delphi Panelists, please refer to the Working Reports on the findings from these two evaluation components.

[45] One of the objectives of the NLSCY is to develop information for policy analysis and program development on critical factors affecting the development of children in Canada.

Also, 68.2 percent of key informants agreed that the data provided by the NLSCY would contribute to the development of programs and policies to support child development.

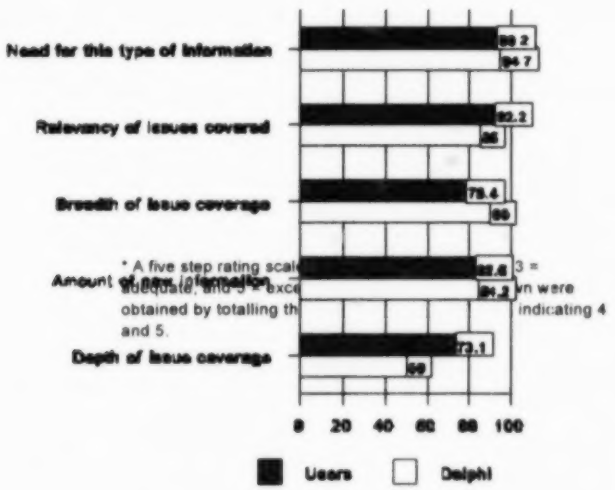
5.2 Content and Content Gaps

The evaluation question addressed in this sub-section is: *Was the NLSCY properly targeted (all children/youth)? Any gaps in coverage re: topic areas?*

Table 5.1
Good-to-Excellent Ratings of the Content of the NLSCY by the Potential Users and the Delphi Panelists*

%

The content of the NLSCY was generally rated very highly by the participants of the various components of the evaluation. For example, when key informants were asked to assess the content of the NLSCY they agreed that there was a strong need for the type of information provided the NLSCY (96.6 percent of key informants provided ratings between five and seven where 1=very poor and 7=excellent). Ratings were equally positive by the Potential Users and the Delphi Panelists (see Table 5.1)[46], an important finding considering that most of these respondents also had suggestions for improvement to the content.



46 Please note that Potential Users and Delphi Panelists rated the need for the type of information provided by the NLSCY on a five point scale, and not the 7 point scale which the key informants used.

5.2.1 Breadth vs. Depth

The lack of depth of issue coverage, was identified as a weakness of the NLSCY. However, for the most part, it was acknowledged that a trade-off had to be made between breadth and depth in the NLSCY.

Key informants suggested that since the NLSCY was developed with breadth of issue coverage, rather than depth as a priority, the NLSCY will be useful as a foundation for more in-depth research which will in turn have important strategy implications. And while half of the Delphi Methodologists did not rate NLSCY data as above average as regards depth, their comments on the issue suggested that more depth may not always be desirable.

For example one panelist stated that "the larger the sample the more the breadth, and the more expensive to increase the depth. I do not think more depth will increase significantly the usefulness of the NLSCY." Another participant of the Delphi Study agreed: "unless I'm way off base, the data never will be useful for in-depth psychological interpretations — nor is it intended to be. What it does is steer people towards topics warranting in-depth analyses with other data". Finally another evaluation participant argued that "I tend to think that the breadth of the questions is one of the strong points to the survey".

5.2.2 Information Gaps

Not surprisingly, many of the participants in the various components of the evaluation identified some type of information as needed but not collected by the NLSCY despite the recognition of the need to restrict the length of the questionnaire. Yet some methodologists felt that their suggested additions would add considerable depth without seriously increasingly the length of the survey. The most frequently mentioned of these gaps in content included:[47]

- topics relating to violence and abuse. This would include both spousal and child abuse (verbal and physical), and violence within and outside of the home;
- information about paternal parenting styles;
- detailed information on family finances;
- information on social influences outside of the family, in particular the influence of peer groups;
- emphasis regarding positive influences in the child's life; and
- detailed information on literacy.

Most emphasis was placed on the need to collect information on **paternal parenting styles** (100 percent of the Delphi panelists felt it was important or very important to assess the role of fathers) and on **abuse and violence**. Without collecting information on abuse and violence,

47 For more information on these gaps, or on the less frequently mentioned gaps, please refer to the Working Reports for the Key Informant Interviews, the Potential Users Survey, and the Delphi Panel Study of Methodologists.

the NLSCY would be overlooking major risks that confront families and children, according to the Delphi panelists.

Also, abuse has serious personal emotional consequences, as well as health care delivery implications. Ignoring this part of children's lives could have serious consequences for the usefulness of the NLSCY in many areas, including restricting the relevance of the NLSCY to the child protection and justice systems.

Discussion group participants acknowledged, however, that while it was very important to collect information on abuse and violence in the NLSCY, there are also serious ethical and confidentiality concerns in collecting these data. Some suggestions were put forward on how this data could be collected,[48] but the participants recommended nevertheless that a discussion group take place with experts in the field to consider this matter further.

Paternal parenting styles was seen as an important content gap to fill since very little knowledge is currently available on the impact of fathers on their children's development. Furthermore, it would be interesting to find out if and how fathers' perceptions of their children differ from that of their mothers. As one discussion group panelist summarized: "It would be so unique in developmental psychology to have good data from both parents."[49]

5.3 Cross Sectional Analyses

The evaluation question specifically addressed in this sub-section is: *Will objectives be met for the cross-sectional analysis?*

The main uses of the cross-sectional data, according to the Potential Users, will be to design new programs and/or improve the delivery of current programs; to develop policies; and to use for education purposes. Other possible uses of the NLSCY Cycle I data that were mentioned included conducting analyses to research further into issues covered by the NLSCY, and to identify targets for new programs.

The evaluation found that the cross-sectional data which will be provided by each cycle of the NLSCY be useful to Potential Users, all of whom felt that they could use the cross-sectional results from Cycle I. Furthermore, the cross-sectional data will allow for the immediate use of the NLSCY data (to develop policies and programs, and to provide current snapshots on the status of Canadian children), while the longitudinal data is being accumulated. Since funding

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48 Suggestions included that: (1) the NLSCY survey respondents, after they have reached the age of 18, are asked about abusive situations in their home while they were growing up. It was also suggested that this would be a good time to collect information about abuse from family, etc.; (2) the NLSCY ask teachers whether or not they believe the child is being abused or whether or not the parents have been reported for child abuse in the past; and (3) the NLSCY ask questions relating to abuse in a manner that does not seem offensive. In this vein, questions on more positive indicators of parenting, parenting style and child well-being could be practical alternative approaches for the NLSCY.

49 Collecting data from both mothers and fathers may be very expensive, however. Therefore the participants suggested economical ways that this data could be collected: (1) Interview mothers and fathers (separately) in a subsample of the NLSCY children; (2) Collect data from both parents at the same time. This may take the format of the interviewer asking the parents questions, and having each parent answer the questions simultaneously on individual answer sheets; and (3) Ask the mothers (who are normally the person most knowledgeable about the child) about the parenting styles of the fathers.

for the NLSCY is dependent on favourable attitudes among governments and the general public as to NLSCY results, immediate usefulness can only be beneficial to the NLSCY. On the other hand, it was suggested by some discussion group participants that the NLSCY could reduce costs (if this is deemed necessary) by not collecting the cross-sectional data. The cross-sectional sample will grow as the study progresses, adding expenses during each successive round of data collection. The panelists felt that if resources were tight, the money spent on collecting cross-sectional data may be better spent reducing attrition in the original sample.

5.4 Potential Uses of the NLSCY

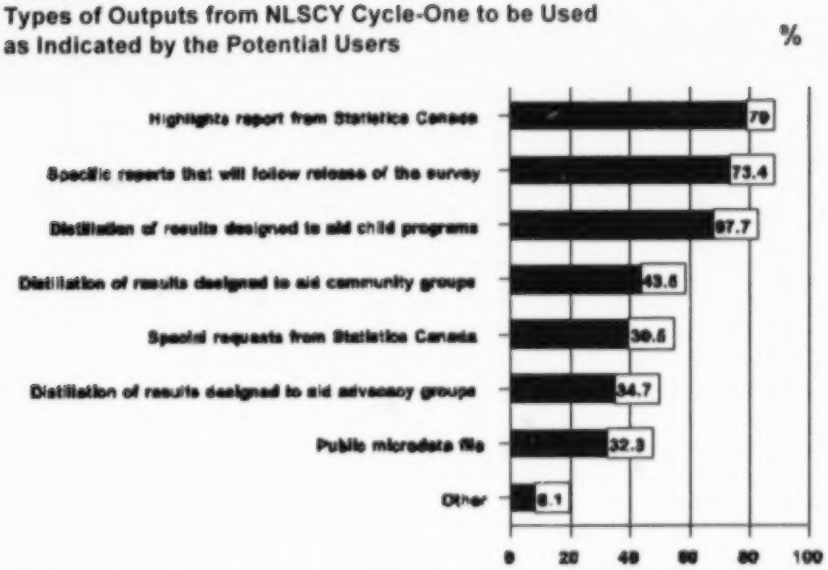
The evaluation question directly addressed in this sub-section is: *What uses will be/can be made of the products from the NLSCY? What will be the end products and data to be released? Feasibility of intended research activity? Has a dissemination strategy been identified?*

All Potential Users felt that they would use the NLSCY data from Cycle I, while approximately 70 percent of the respondents also felt that they would make use of the longitudinal data which would be available in the future (over 20 percent did not know if they would use the data as of yet). When considering that over 40 percent of the respondents had not heard of the NLSCY before contact from the NLSCY evaluation team, it becomes clear that when informed about NLSCY, the potential users are pleased with the information that the NLSCY will provide to policy makers, academics, the media, and others.

When asked which of the potential outputs of the NLSCY they expected to use, almost 80 percent of the respondents said they planned to use the highlights report from Statistics Canada, while the distillation of results designed to aid children's programs[50] and the specific reports that will follow the release of the survey were also expected to be very useful (see Table 5.2, next page).

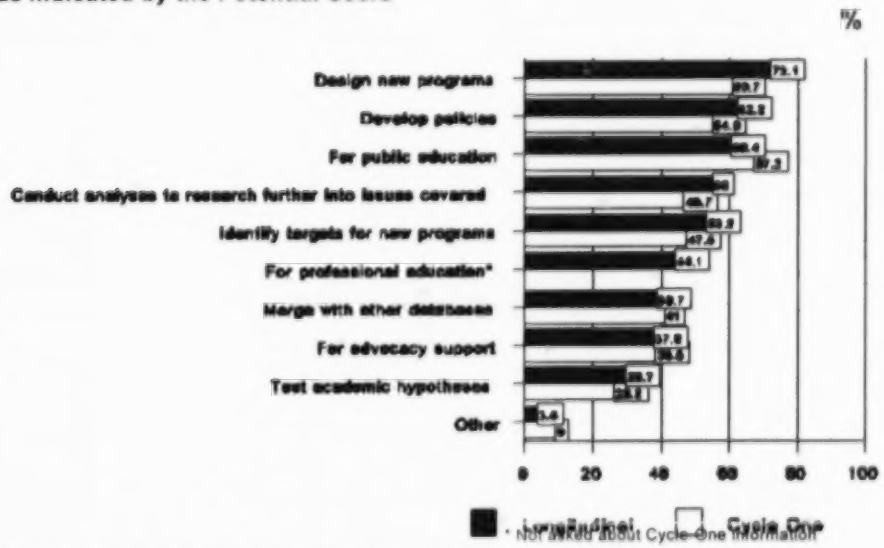
[50] This could perhaps take the format of a National Advocacy Group analyzing the NLSCY data and producing practical programs from the findings.

Table 5.2
Types of Outputs from NLSCY Cycle-One to be Used as Indicated by the Potential Users



Other potential outputs which the respondents mentioned would be useful were data files available to government jurisdictions, and a separate database on the NLSCY's data regarding education. The potential users felt that the NLSCY would be able to be used in a variety of ways (see Table 5.3 below).

Table 5.3
Potential Uses of Cycle-One and Longitudinal Information as Indicated by the Potential Users



It is interesting to note the identified uses for the *longitudinal data* will differ somewhat from the uses of the *Cycle I data*. The NLSCY

longitudinal data, according to the survey results, will tend to be used more to identify targets for new programs; to design new programs or improve delivery of existing programs; to develop policies; to conduct additional research into issues covered; and to develop or test academic theories. On the other hand, it is surprising to note that the potential users felt that they would use the Cycle I data more often than the longitudinal data for public education purposes. The use of the data for advocacy support reasons and to link with other data bases for further analysis, according to the results, would remain about the same.

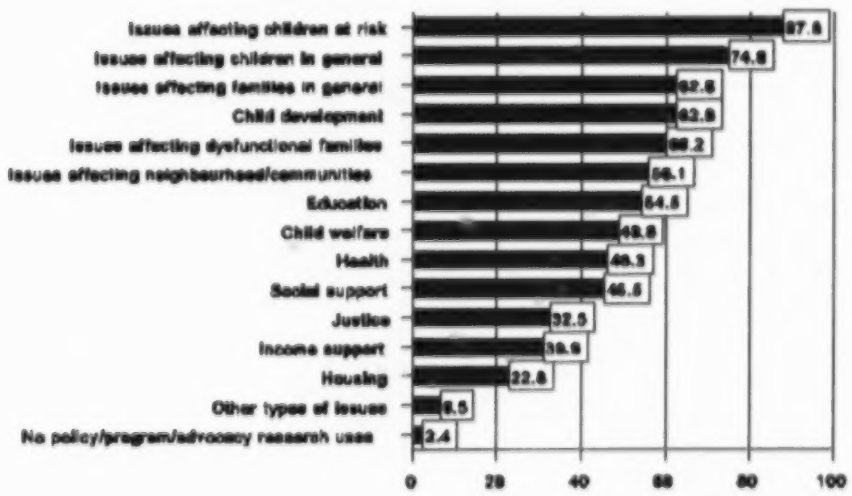
Other uses for the NLSCY Cycle I information that were suggested included to educate lawyers, nurses, doctors and health care professionals; to provide support for continued funding of programs and for the creation of new ones; to help produce research proposals; as a baseline for program evaluation; and to conduct research for feature articles on relevant topics (public education).

Related uses for the NLSCY longitudinal information included the development of outcome measures for program monitoring; as a baseline for program evaluations; to identify trends; and to assess legal strategies and reforms.

The expected use of the NLSCY data suggested by the survey of potential users would be primarily focused on issues affecting children at risk; issues affecting children in general; issues affecting families in general; and on child development (see Table 5.4 below). Other types of issues that the NLSCY data use would focus on, according to the potential users included: leisure and recreation; literacy; child custody; and child care.

Table 5.4
Focuses of the Potential Uses of the NLSCY as Indicated by the Potential Users

%



6.0 ALTERNATIVES/COST-EFFECTIVENESS

6.1 Cost-Effectiveness and Alternatives

The evaluation question directly addressed in this sub-section is the following: *Is the NLSCY approach the most cost-effective and appropriate mechanism to produce the information needed to develop programs which would improve the socio-economic well-being for all children and youth in Canada? How can the current mechanism be improved?*

In general, existing research indicates that the benefits of longitudinal surveys outweigh their costs. Numerous researchers agree that when the cost of information is compared to the benefits of its use, in prevention of suffering and in lowering health care costs, it is clear that money spent on longitudinal surveys of children is an excellent investment. Also, arguing that causal analysis can be more effectively undertaken using longitudinal data, authors state that it makes more sense to spend the money to get the right answers through longitudinal research than to obtain less conclusive answers in cross-sectional research.

Key informants and Delphi Panelists included in the evaluation tended to agree with the literature. The general consensus of the Delphi panel was that longitudinal studies are the most cost-effective research method to provide the information that is needed to help researchers find ways to reduce risks to children and improve their lives. Similarly, *the majority of Delphi respondents (58.3 percent) felt that cross-sectional studies did not provide the best data for use in developing programs that reduce risks to children and improve their lives.*

Even those panelists who did say that cross-sectional studies could provide the necessary data to reduce risks to children were generally also in favour of longitudinal studies. For example, one participant stated that cross-sectional studies could provide key data, but that they were "definitely second best" to longitudinal studies.

Alternatives: Several of the Delphi Methodologists suggested alternative methods of conducting the NLSCY in order to make it more useful, without significantly escalating its costs. For example one panelist suggested that it may be preferable to follow only two cohorts longitudinally, rather than the current seven. The panelist believed that if only 2 cohorts were retained for the longitudinal portion of the NLSCY, extra resources would be available to augment the sampling.[51] Likewise, it was suggested that cost-savings could be achieved by surveying the NLSCY children every three, rather than every four years.

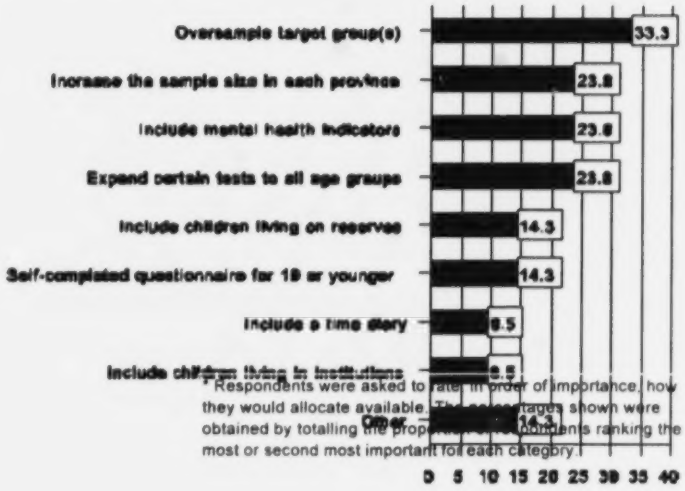
[51] Please refer to the Working Report on the Delphi Panel Study of Methodologists for more details.

Other panelists argued that the number of cohorts should be limited if budget constraints require it. The panelists who were in favour of limiting the number of cohorts generally tended to agree that the cohorts to be retained in such a situation should be those of children aged 0-11 months and 10-11 years. However, other Delphi participants disagreed with this suggestion for a variety of reasons. One panelist stated "without question the sample is the strength of the study — this should be preserved", while another panelist argued "there are risk factors associated with each age cohort. I don't agree that some of the age cohorts are more important than others".

The Length of the Survey: The number of instruments and their length were considered to be a weakness of the NLSCY by several Delphi Methodologists, one of whom suggested eliminating all instruments/questions that did not obtain good response rates in Cycle I. A majority of the Delphi panelists agreed with this suggestion. 42.9 percent of the Delphi participants said that all instruments without good response rates should be eliminated, while 21.4 percent stated that only specific instruments (i.e. principal's questionnaire or those instruments with less than 5 percent response) without good response rates should be eliminated.

Table 6.1
Allocation of Hypothetical Extra Monetary Resources by Delphi Panelists*

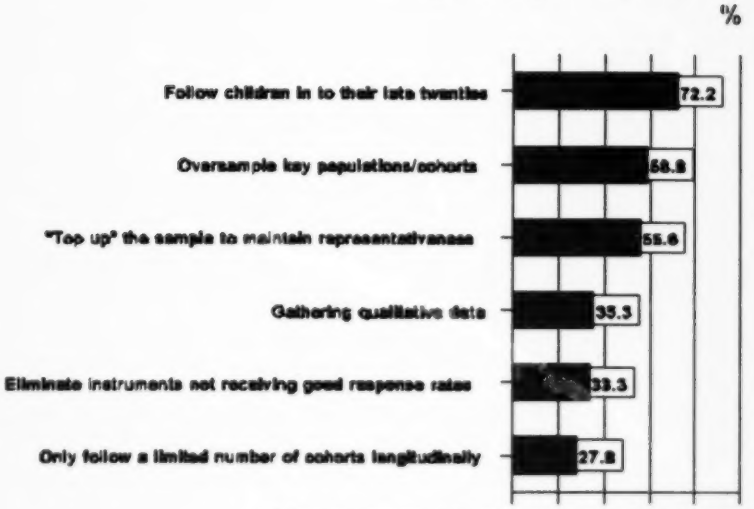
Allocating extra funds: Delphi Methodologists were asked how they would allocate additional monetary resources if they became available. Panelists tended to favour spending money on oversampling target groups, increasing the sample size in each province and many suggested including indicators of mental health (see Table 6.1).



* Respondents were asked to rate, in order of importance, how they would allocate available funds. The percentages shown were obtained by totalling the proportion of participants ranking the most or second most important for each category.

Table 6.2
Suggested Improvements to the NLSCY Methodology by the Delphi Panelists*

Importance of Suggested Methodological Changes: In general, the Delphi Methodologists felt that the most important changes to improve the NLSCY would be to follow the children into their late twenties, to "top up" the sample to maintain its representativeness and to oversample key populations and cohorts (see Table 6.2).



* A five step scale was used, where 1 = not needed, 3 = average, and 5 = much needed. The percentages shown were obtained by totalling the proportion of respondents indicating 4 and 5.

6.2 Some Content Suggestions for Future Cycles (Adolescents)

A variety of suggestions on content for future surveys of the NLSCY youth were put forward by participants in the evaluation, the final round of which came from the discussion group (these suggestions are complementary to other content suggestions that were noted in Section 5.2).

The evaluation participants suggested topics which they felt were important to cover in future rounds of the NLSCY (i.e. for children 11 years and older) including: career planning; educational expectations; dating behaviour; sex education; sexual activities; attitudes towards drugs and smoking; and delinquency.

The discussion group participants felt that such additions were important to cover for a variety of reasons including the fact that: educational expectations are one of the best predictions of drop-out; 29 percent of grade 9 students are sexually active; and 50 percent of students are sexually active by grade 11.

Further, it was suggested that it was important to be able to answer questions such as: Are these adolescents using precautions against pregnancy and sexually transmitted diseases? Is sexual education in the schools effective in preventing pregnancy and STD's? Does sex education at an early age contribute to increased sexual activity?

7.0 DISSEMINATION STRATEGY

The evaluation question directly addressed in this sub-section is: *What uses will be/can be made of the products from the NLSCY? What will be the end products and data to be released? Feasibility of intended research activity? Has a dissemination strategy been identified?*

7.1 Awareness of the NLSCY

Many key informants felt that those people who should know about the NLSCY have yet to learn about it. Academic key informants and discussion group participants stated repeatedly that their colleagues rarely knew that the NLSCY existed. Other key informants stated that community end-users and schools have no idea that this data base will exist in the near future. In other words, a concern of many key informants was that: "only those people involved in the process are aware of it". This is a problem that many key informants believed will be greatly reduced when the NLSCY data is released and widely disseminated.

However, discussion group participants emphasized that the only way that the data can be useful is if people know about it. To remain relevant over time, the NLSCY must come alive according to the participants. As one panelist summed it up: "Right now you're not relevant, you don't exist."

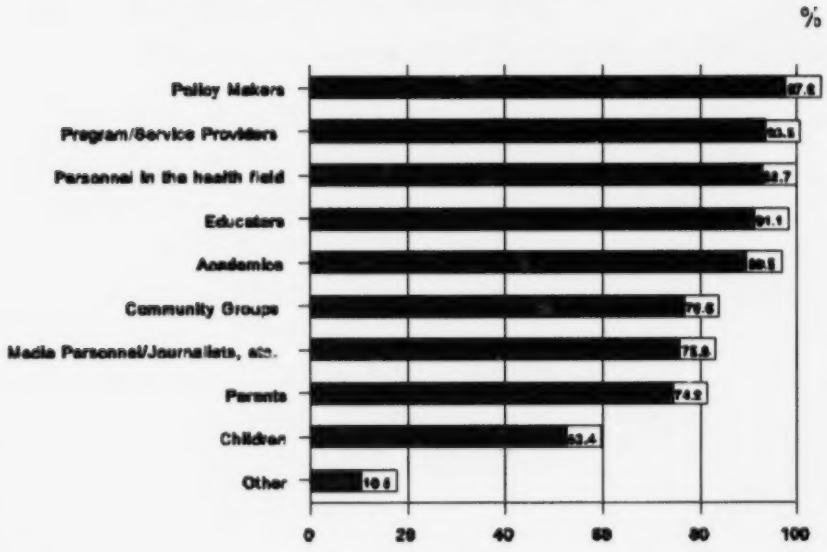
The Survey of Potential Users backs up the observations of the key informants. Over 40 percent of Potential Users had not heard of the NLSCY before contact with the evaluation team. Almost 16 percent of the Potential Users had some involvement in the development of the NLSCY. Some 42 percent learned of the NLSCY from personal professional and governmental contacts. Only 6 percent of respondents learned of the NLSCY from promotional literature.

7.2 Who Should Know About the NLSCY

When asked who should know about the NLSCY data base, almost all of the Potential Users suggested that it was important for policy makers to know about it. Academics, program and service providers, educators and personnel in the health field were also suggested as people who should know about the NLSCY by both the Potential Users and the Key Informants (see Table 7.1).

Other people who should know about the NLSCY, according to the Potential Users, included personnel in the recreation and leisure field, police, social workers, politicians at all levels, municipalities, and the population in general.

Table 7.1
Who Should Know about the NLSCY Database as Indicated by the Potential Users



7.3 Obstacles to Using the NLSCY Data

Potential Users, Delphi Panel Methodologists, and Key Informants felt that many people would face obstacles to using the NLSCY data. The main obstacle to using the NLSCY data, according to 60 percent of the potential users, is the cost of purchasing the data. Indeed, some 60 percent of the respondents felt that this would be an obstacle to their organization's use of the data (see below regarding off-setting effects of Statistics Canada's *Data Liberation Initiative).*[52] The limitations of Provincial and Territorial sample breakdowns, and the lack of human resources were also highly rated by the potential users as obstacles to the use of the NLSCY data. On the other hand, roughly 18 percent of potential users felt that there were no obstacles to using the NLSCY data (see Table 7.2, next page) and over half of key informants did not identify any specific groups which would not be able to use the NLSCY data.

52 It is not known, however, how many of the potential users who feel that the cost of the data is an obstacle to using the NLSCY data, actually intend to use the public microdata file. In fact, only 32.3 percent of the potential users state that they plan to use Cycle One's microdata file.

As to particular groups likely to be affected by costs, the potential users felt that the NLSCY *would not be affordable* to some advocacy or research groups, students, child care providers, community groups and those with a limited budget generally. Discussion group participants agreed and suggested that since the relevance of the data is only heightened with its use and application to policy and programs, the cost-recovery policy for the NLSCY data should be reconsidered. It was suggested that some kind of agreement be made to allow municipal governments or others to purchase the data and release it to non-profit organizations in their jurisdiction at no charge. Another respondent pointed out, though, that as long as 'paper' reports and analyses are done, access to the results of the NLSCY is available to everyone. Participants in the discussion group were encouraged by the fact that the NLSCY is likely to be included as part of the Statistics Canada *Data Liberation Initiative*. This provision would only aid the use of the data by academics, however not community, service or non-profit organizations.[53]

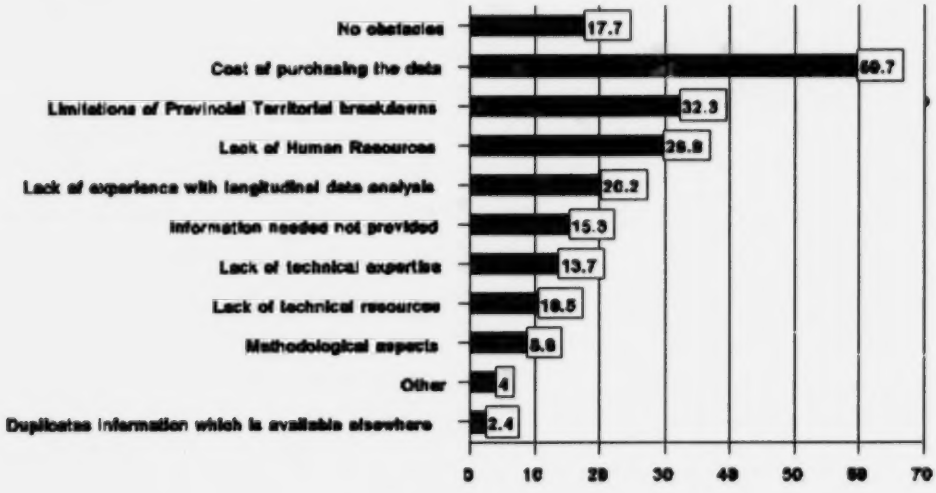


Table 7.2
Obstacles to Using the NLSCY
as Indicated by the Potential Users

Lack of technical expertise and resources (e.g. lack of access to a computer) were also stressed, by Key Informants and Potential Users, as a clear obstacle for community groups to using the longitudinal data. Making materials/reports available for the specific use of community groups, written for lay persons, was suggested as an excellent method to help ease this problem.

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53 The Data Liberation Initiative (DLI) provides a new model for academic institutions to acquire Statistics Canada data. At the present time, university libraries purchase some data files from Statistics Canada; individual professor also buy Statistics Canada data when their research budgets permit it, but are prohibited from sharing these data with colleagues or students under Statistics Canada's licensing agreement. Under the DLI, the vast majority of data will be purchased at an institutional level and thus will be at the disposition of students and professors for non-commercial purposes. Furthermore, universities will be able to acquire data for a set annual fee. (adapted from Statistics Canada information sheet *Data Liberation Initiative: Frequently Asked Questions*, March 1996).

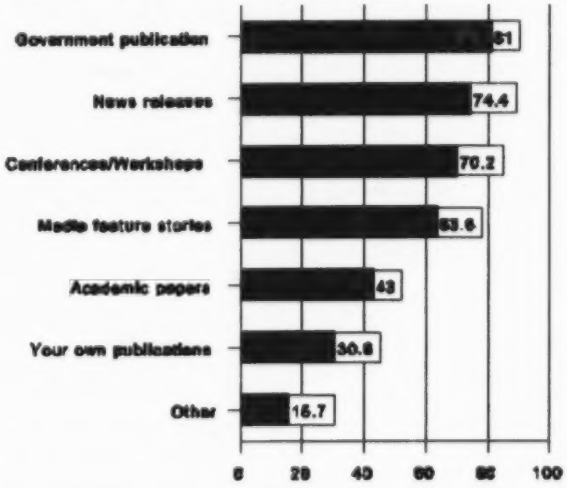
Some Potential Users, Key Informants and Delphi Methodologists also felt that the lack of knowledge on how to use longitudinal data may be an obstacle to some for using the NLSCY data. The provision of technical assistance, as well as the use of conferences and workshops to teach people how to use the data, would help some overcome this obstacle (also see Section 7.5, *Support Systems* next page).

7.4 Suggestions for Disseminating the Data

The majority of the respondents felt that the best ways to disseminate the NLSCY information were through government publications, news releases, conferences and workshops (see Table 7.3).

Table 7.3
The Best Approaches to Disseminate the NLSCY Data as Suggested by the Potential Users

%



Additionally, a large number of respondents suggested using the Internet to provide information on the NLSCY, how to order the data, and how to obtain government publications on the NLSCY. Other methods of dissemination that were suggested included direct contact with local government agencies, disseminating information through professional associations and advocacy publications, and through newsletters aimed at policy makers, as well as through schools.

Generally the Key Informants interviewed by the evaluators reported that the dissemination/ use of NLSCY data following the survey was regarded as the area in greatest need of development at this time. Suggestions for data dissemination were varied. Most of those interviewed believed that the information should be packaged in some way for use by community/program level users. However, the importance of the media in the dissemination of the data,[54] and in securing public support for the NLSCY, was stressed by many key informants. Key informants also noted that it is important to keep the NLSCY "in the headlines" for as long as possible.

Discussion group participants suggested that articles should be written for popular magazines, teacher's newsletters, newspapers, etc. They suggested that the media profile could take on many different forms. For example, it could mean simply having one new fact from the NLSCY published every day in a regular "box" on the front page of the newspapers much like many

[54] Delphi panelists echoed the importance of the use of the media.

papers have the quote of the day, and other interesting odds and ends. Discussion group participants also suggested that the NLSCY conduct a marketing campaign similar to that used to generate a high public profile for the Census.

This wide ranging interest in dissemination was echoed, as is seen below, in the many ideas evaluation participants put forward on providing support to potential users.

7.5 Support Systems

When asked what support systems should be put into place by Statistics Canada and HRDC to facilitate the user of the NLSCY, potential users, key informants and Delphi panelists had a wide variety of suggestions. The main ideas that kept recurring included the following:

1. **Create a User Group**: Longitudinal data are often under-used and under-analyzed, because of their complexity. The experiences of the NLSY and NCDS have shown the usefulness of a user group to help alleviate this problem. User groups not only distribute methodological and other information on the longitudinal study, and help researchers with any problems they may encounter while using the databases, but they also help 'team up' the various users of the NLSCY so that collaborative multidisciplinary research can take place. Additionally, such a user group could facilitate 'self-help processes' so that users of the NLSCY data could help each other learn about the data, the NLSCY methodology, etc.

2. **Provide a resource person/team for consultation on using the data**: This resource person could work through the Internet or by telephone to provide statistical advice and other kinds of research support to help researchers interpret the longitudinal data. The resource person/team may also provide technical advice on how to use the micro-data file.

3. **Provide training to assist all researchers, especially those who are used to working only with cross-sectional data**: This could take place in the format of workshops, presentations at relevant conferences, research consultations, etc. Conducting demonstration projects (e.g. what can be done & how to do it?) was another suggested idea to assist researchers.

4. **Make the cost of the NLSCY data affordable**: According to potential users and key informants, the data base must be accessible to those who can use it to benefit children and families. The current plans to charge about $2,000 for the data was seen as an obstacle for many potential users to access the data.
   Some suggestions on this matter[55] included reducing the costs to some agencies/ organizations, such as child welfare agencies; charging membership fees with Statistics Canada versus subscription fees (so that educators could apply a tax break and still obtain data from journal reports); and allowing a site licenses. It was also suggested

[55] Distinct from the Data Liberation Initiative noted earlier. See Footnote 50, Page 37

that shelf tables be available in paper or disc form so that the whole survey need not be purchased.

5. **Provide clear and accessible documentation for use of the NLSCY**: This includes documentation to assist those using the micro-data file, summary reports on specific topics, etc. It was suggested that a highlights reports, perhaps in the form of a comprehensive user-friendly interpretation/synopsis of results, could facilitate the use of the NLSCY if it were accessible to policy-makers, public health units, children's aid societies, ministries of community and social services, boards of education, parenting groups, and others. This highlights report would be detailed, but designed for interested professionals rather than for academics.

   It was suggested that any such summary or highlights report should be available on diskette, and should also be translated into other languages. It was also suggested that some of the more important data should be summarized in simple, plain-language brochures which parents, community and advocacy groups would use. Furthermore, advertising the findings of the data through 'ready-made' articles for reprinting in specialized publications may also facilitate the use of the NLSCY.

6. **Use the Internet**: Some suggestions included making the data available on the Internet at a pay per view cost; and obtaining an Internet web-site where NLSCY users could download documents and summaries of the NLSCY results.

7. **Provide a media contact or a spokesperson** to facilitate the use of the data by journalists. Furthermore provide media releases to ensure that people are aware that the data exists and is available. Key Informants even suggested that a one-two day workshops for the media should be held so that journalists would not have to rely on small bits of information for writing articles. It was also suggested that these sessions could also be used to "spin" how the NLSCY results are interpreted in the media (i.e. as a celebration of the strengths of children, rather than as a negative tool).

   Furthermore, NCDS experience shows that good media coverage can help boost response rates in future cycles. When respondents see the results of the study receiving positive media attention (as in the British Study), they are more likely to understand the importance of the study and be more eager to participate in future data collection cycles. In the long term, positive media attention may result in an increase in legitimacy due to higher response rates and higher usership.

8. **Facilitate research which is conducted with the NLSCY data** by providing the appropriate researchers with the resources necessary to conduct research. This may be done through holding special competitions for grants, or by contracting out specific projects that would require the use of the NLSCY data.

9. **Hire a data librarian**: A data librarian could ensure that all possible avenues of research would take place. He/she would know what data is being under-analyzed, and advertise this data to those who may be interested in using it.

8.0 CONCLUSIONS

1. ***To what extent are the mandate and objectives of the NLSCY relevant?***

The relevance of the NLSCY was clearly indicated throughout the evaluation: *data from all research components of the evaluation point to the fact that the NLSCY will be a valuable tool for future research and that it will contribute to the increased knowledge of the characteristics of Canadian children on a national scale. Furthermore, the relevance of the NLSCY is expected to grow over time as the longitudinal data accumulates.* It was also pointed out that the NLSCY data will always be relevant because it relates to enduring health and social issues, and because it is based on children.

2. ***Was the NLSCY properly targeted (all children/youth)? Are there any gaps in coverage regarding topic areas?***

The evaluators concluded that the NLSCY was properly targeted toward all children and youth, though improvements could have been made by collecting more information for Aboriginal and immigrant children. Participants of the evaluation also emphasized that the utility of the data will be maximized if the NLSCY follows the children into adulthood, perhaps into their late twenties.

A variety of content gaps were noted by the evaluation participants, as well as a number of suggested improvements to the content of specific instruments. The topic areas where gaps were listed most often included: information on sexual, verbal and physical abuse; poverty; literacy-positive influences in the child's life; and social influences in the child's life. The current lack of information on paternal parenting styles was also emphasized as a major gap in information in the NLSCY. Some other gaps were also noted.

However, it may be that this is inevitable if viewed in the light of the NLSCY's need to focus the survey, reduce the length of the survey questionnaire, and meet tight scheduling and budgeting requirements. Furthermore, the NLSCY was designed to address a broad range of issues rather than a few issues in-depth. Therefore, many of the mentioned gaps in NLSCY coverage occur because of the study's focus on providing a broad range of indicators related to risk factors affecting children.

3. ***Is there a continuing role for the Federal government to play in collecting data of this nature?***

The evaluation highlights a variety of reasons why the Federal government should play a major role in collecting data of the nature of the NLSCY's. First, longitudinal studies require secure funding throughout the study in order to guarantee longevity of the research. Such monetary resources are rarely available outside of government. Second, government can guarantee the institutional survival of a longitudinal study even after the original principal researchers have changed employment, retired, etc. Thirdly, it is more practical for a national organization, such as the federal government,

to conduct national studies than other smaller or regional organizations. Finally, the Federal government can play a unique role in: (i) coordinating the complex data collection, (ii) aiding the policy interpretation and application of such data for reducing or preventing conditions of risk to children's well-being; and (iii) in identifying the further implications for related issues in societal development.

4. ***To what extent can the creation of the Canada-wide longitudinal and cross-sectional database on children contribute to increased knowledge of: (i) the characteristics of children in Canada? (ii) the processes which shaped their development? and (iii) the development of effective policies and programs for children at risk?***

The NLSCY will provide a wealth of new knowledge on the development and characteristics of children in Canada. It was pointed out by many of the evaluation's respondents that the NLSCY is providing new knowledge simply by the fact that it is the first national longitudinal study of children in Canada. However, the most new knowledge collected by the NLSCY will come from determining the various risk factors in the development of children, and how those risk factors interrelate. Until now, research has linked certain risk factors to development, but a multitude of risk factors have not yet been incorporated into a single study in order to provide researchers with perspective on the relative importance of each risk factor within a multitude of factors. The NLSCY is the first study in Canada to do this.

5. ***Will objectives be met for the cross-sectional analysis?***

The collection of cross-sectional data will allow for the immediate use of the NLSCY data (to develop policies and programs, and to provide current snapshots on the status of Canadian children), while the longitudinal data is being accumulated. The collection of cross-sectional data from children who are not to be followed longitudinally may not provide enough benefits in order to justify the costs, however. The cross-sectional sample will grow as the study progresses, reflecting an additional expense during each round of data collection. Some of the evaluation's participants felt that the money could be better spent to strengthen the NLSCY in other ways.

6. ***To what extent will the NLSCY and associated activities provide new knowledge and increased public awareness regarding conditions of risk faced by children? (Assessment of quality of survey design.)***

The NLSCY survey design was highly rated consistently throughout the evaluation. Overall soundness of survey design, and almost all aspects of sampling, content and survey instruments were highly rated by all of the evaluation's methodological panelists. One area in which the NLSCY was not highly rated by all, however, was the study's breadth rather than depth of information gathered. However, for the most part it was acknowledged that a trade-off had to be made between breadth and depth in the NLSCY content.

It was often suggested throughout the evaluation that the NLSCY would benefit from larger sample sizes in the smaller provinces. Larger sample sizes in the smaller provinces would allow for greater policy and program use at the provincial level, and

would also allow for comparisons of the differing social policies and their effects on children.

Almost everyone who praised the NLSCY also had suggestions for improvements. Evaluation participants felt that the most important suggested improvement to the NLSCY was to verify the adequacy of the shortened measures such as the psycho-social measures. Concern was expressed that the psycho-social measures may have been shortened arbitrarily and because of this, the usefulness of the initial data collected by the NLSCY may have been reduced. The inclusion of full measures where possible was also strongly suggested.

Some other suggestions which were considered important by the majority of the evaluation's participants, included filling certain content gaps (100 percent of Delphi Panel Methodologists agreed that it is important to collect data on paternal parenting styles) and including literacy tests in the NLSCY. Furthermore it was suggested that certain tests such as the PPVT should be expanded to all age groups so that researchers are able to compare and contrast test results from data collection cycle to cycle.

Suggestions were put forward by evaluation participants as regards the need for precautions which must be taken to reduce attrition in future rounds of the NLSCY. It was suggested, for example, that greeting cards or some other annual mailing to families in the sample could help reduce attrition rates, and that as much information as possible, including names, addresses and phone numbers of friends, family and neighbours be collected to help locate respondents in the future. The NLSCY is already following many of these suggestions.

Further suggestions include standardizing the measures over the course of the study to ensure comparability of the data between data collections and ensuring that the person answering the questions on behalf of the child generally is the same throughout the study.

7. ***What effects have the development of partnerships and cooperation among and with other levels of government, and with the voluntary and private sectors (effectiveness of survey development process)?***

The development of the NLSCY was generally a positive process. Key informants, for the most part, were very satisfied with the development process, although the Provinces/ Territories would have preferred a stronger voice in the consultations, and the implementation of the NLSCY reportedly had problems due to insufficiently clear goals and roles for HRDC and Statistics Canada, and tight time frames. It was noted that specific efforts have been undertaken to improve the working relations between Statistics Canada and HRDC, and reports suggest that the efforts have been successful and that working relations have become smoother over the past year.

8. ***To what extent are the various players, stakeholders, and beneficiaries satisfied with the first cycle: (i) processes; and (ii) expected products of the NLSCY? What is the overall measure of support for the NLSCY project?***

In the national survey of potential users of the NLSCY, all respondents felt that they would use the NLSCY data from Cycle One, while approximately 70 percent of the respondents also felt that they would make use of the longitudinal data which would be available in the future. Another 20 percent did not yet know whether or not they would use the data. There is strong support for the NLSCY from those who are aware of it. Delphi panelists and others emphasized the importance of Canadian longitudinal data for informing policy and developing effective programs.

9. ***What uses will be/can be made of the products from the NLSCY? What will be the end products and data to be released? Feasibility of intended research activity? Has a dissemination strategy been identified?***

In the survey of potential users, the highest rated potential use of the NLSCY longitudinal and cross-sectional data was to design and improve delivery of programs for children. Other potential uses that received high ratings included: (a) to develop policies; (b) to conduct analyses to research further into issues covered; and (c) to identify targets for new programs. Most potential users felt that the longitudinal data would be more useful than the cross-sectional data: to identify targets for new programs; to design new programs; to improve delivery of current programs; to develop policies; and to conduct further research into issues covered by the NLSCY.

According to potential users, the most useful potential outputs of the NLSCY are expected to be the highlights report by Statistics Canada, distillation of results designed to aid children's programs and the specific reports that will follow the release of the survey. The methods of disseminating the data which were most often suggested includes through government publications, news releases and through conferences and workshops. A large number of the evaluation participants also suggested using the Internet to provide information on the NLSCY and on how to order the NLSCY data.

Throughout the evaluation the importance of using the media to disseminate findings, and to advertise the availability of the data was emphasized. Using the media will not only increase usage, which in turn will make the data set more valuable, but will also help reduce attrition (people will be proud to take part in a survey which is widely talked about). A media strategy for dissemination is considered by many as the most important aspect of the NLSCY dissemination strategy.

Concern was expressed that the cost of the database will inhibit the use of the data by some potential users. While it was noted that the Data Liberation Initiative may result in the data base being more affordable for academics, it was suggested that strategies to provide the same advantage to the non-profit and advocacy sectors be considered so that the data may be used to its maximum potential.

Other suggestions for the NLSCY's dissemination strategy included establishing a User Service/Group to encourage NLSCY data users to team up for collaborative multidisciplinary research and to aid each other (i.e. self help group). The group could also provide training sessions on how to use the data and answer researchers' questions.

It should be noted that as of writing the study data have still not been released for public use. As many potential users will link their analysis plans to other time-tables, it may be useful for release dates for future Cycles to be more certain.

10. ***To what extent does the NLSCY and its associated activities complement/ supplement/duplicate that of other Federal/Provincial governments or institutions? Were other existing sources examined prior to NLSCY design?***

A review of Canadian research on children shows that the NLSCY does not duplicate any other Canadian study currently being undertaken or having been recently completed. Other Canadian research tends to have smaller samples, to be regionally, rather than nationally based, and to be topic specific. The NLSCY is unique in its combined characteristics of population coverage (national sample), broad topic coverage, and longitudinal methodology. No other Canadian study provides such broad longitudinal and cross-sectional data on children.

11. ***Have appropriate systems been established to coordinate and monitor the activities under the NLSCY?***

The HRDC and Statistics Canada managers of the project have established a variety of reporting mechanisms and publications and have provided regular feedback to participants in the NLSCY process. Continued development of these mechanisms, particularly as regards ongoing information for participating federal departments, and the Provinces/Territories should be emphasized.

This coordinating monitoring process could also be extended through the establishment of a mechanism to monitor and report on uses of the NLSCY data, once it is released (for example follow-ups on users). This will be essential to minimize duplications of efforts, and to document uses and impacts of the survey.

12. ***Is the NLSCY approach the most cost-effective and appropriate mechanism to produce the information needed to develop programs which would improve the socio-economic well-being for all children and youth in Canada? How can the current mechanism be improved?***

Existing research indicates that the benefits of longitudinal surveys outweigh their costs, and thus illustrate the cost-effectiveness of NLSCY. When the cost of information is compared to the benefits of their data, in providing input for the development of appropriate policies and programs, it appears that funding for longitudinal surveys of children such as the NLSCY is an excellent investment. Furthermore, causal analysis can be more effectively undertaken using longitudinal data, meaning that it makes more sense to spend the money to get highly useful (longitudinal) data than to spend similar amounts of money for a less conclusive answer. Many alternatives to the current format of the NLSCY were suggested throughout the evaluation, and included, for example, collecting information from the child's school records rather than from teacher questionnaires; lowering the sample size in larger provinces and increase them in smaller provinces; and collecting data at three year intervals rather than two year intervals.

The NLSCY was found to be highly relevant and an appropriate initiative of the Federal Government. As well, it appears to be a cost-effective and significant undertaking for the development of new information on Canadian children which does not duplicate any other Canadian study. The NLSCY will provide a wealth of new knowledge on the development and characteristics of children in Canada, according to a wide range of subject matter specialists and methodologists who participated in the evaluation. The NLSCY survey design was highly rated throughout the evaluation. Overall soundness of the survey design and most aspects of sampling, content and survey instruments were also highly rated by the evaluation's methodological Delphi panelists. Some areas for improvement were suggested, but generally the NLSCY and its methodology were strongly supported by methodologists and potential users from across Canada.

APPENDIX A
MANAGEMENT RESPONSE
CURRENT STATUS OF CONTENT TOPIC "GAPS" IDENTIFIED IN THE EVALUATION

Abuse and Violence

The NLSCY Team contracted with experts in the field in both Cycle 1 and Cycle 2 to obtain advice on this important and delicate topic. The report resulting from the Cycle 2 contract will be instrumental in pursuing this topic for future cycles although certain difficulties with respect to legal implications must be resolved.

Paternal Parenting

The suggestion to include parenting measures from both mothers and fathers has been considered by the Team in preparation for both Cycle 1 and 2. This topic was one of several rejected for inclusion because of the need to limit the length of the household interview. However, the topic of *fathering* is being considered for subsequent cycles.

Poverty, Family Finances, Economic Security

The objective of the Labour and Income sections of the NLSCY was to measure the level of income and the degree of stability in the child's economic environment. A substantial amount of information is available. Constraints on the length of the household interview forced a choice to be made giving priority to information about the child instead of further additional information about the family financial environment. In addition, the Team is exploring possibilities of linkages to other data to improve the income information.

Positive Influences on Child's Life, Social Influences on Child's Life

The Project Team has attempted to include as many of these influences as possible in the current questionnaire. However, constraints on the length of the household interview limited some kinds of measures from being included. Priority was given to measures most relevant for policy interventions.

Sexual Behaviour, Suicide, Drug and Alcohol Use, Dating Behaviour

These topics were included on the Cycle 2 questionnaire to be completed by 12-13 year old children. Although the prevalence is not sufficiently high to warrant inclusion of all of them on the questionnaire for children 10-11, it does contain questions on drug and alcohol use.

Delinquency, Criminality

A small number of items were included on the questionnaire for children 10 to 11. As the prevalence rates are higher for older children, an expanded section has been included for 12-13 year olds in Cycle 2. The development of a more detailed section on criminality will be considered for Cycle 3.

Nutrition

This topic was considered for both Cycle 1 and 2. Because of the large number of questions required to collect reliable information, limited respondent time did not permit its inclusion. Some items related to diet have been included for Cycle 2 on the questionnaire completed by 12-13 year old children. It should be noted that other related work within the Applied Research Branch at HRDC is being done with provinces on a separate food insecurity questionnaire.

Career Choices, Educational Expectations

Questions related to these topics were tested on 12-13 year olds in preparation for Cycle 2. Their inclusion has been delayed until Cycle 3 however as it was found during testing that most children had not seriously thought about these topics at this age.

Child's Emotional Well-Being, Mental Health Indicators

The Cycle 1 and 2 questionnaires include an extensive series of questions on this topic. The Team would need clarification of any specific additional needs.

Time Use

The potential inclusion of a time use diary as a data collection instrument was considered by the Team but was rejected to avoid additional respondent burden. As well, the reporting of time use by young children would be problematic as it would have to be done by parents.
In Cycle 1, questions were asked about the kinds of activities in which children in the sample participate. Some additional questions about time spent by children and parents together have been included for Cycle 2.

In addition, the Applied Research Branch is actively involved in improving time use information. An interdepartmental exercise with Statistics Canada will look at the way Canadians allocate their time to key life activities including family time and care of children.

Literacy

The Cycle 1 questionnaire included questions on this topic for children of all ages. In Cycle 2, a reading comprehension test is also being administered to children in Grade 2 and over in their school to obtain a direct measure of reading ability. Besides this, extensive ongoing work is carried out within the Applied Research Branch in the measurement of reading and other basic skills as part of research on investments in human capital.

PPVT and Math Skills Tests

In Cycle 1, the PPVT was administered to 4-5 year old children in their home and a Math skills test was administered in the school for children in Grade 2 and over. These assessments continue for Cycle 2 and the PPVT is extended to 6 year old children.

Non-Traditional Medicines and Religion

The topic of spirituality was considered for inclusion in both Cycle 1 and 2 but had to be dropped because of time constraints.

Qualitative Measures

A suggestion was made that the survey should collect qualitative information, to give respondents the opportunity to "describe their world in terms that make sense to them". It is assumed this means descriptive, open-ended, non-quantifiable information, for example, case studies. Given the current survey design, it is not possible to consider qualitative measures at this time. However, work done by others could build on and thus complement the current data set.

APPENDIX B — LIST OF WORKING PAPERS

Other reports which have been written during the course of the NLSCY evaluation include:

1. ***Literature Review***: A Working Paper for an Evaluation of the National Longitudinal Survey of Children

2. ***Key Informant Interviews***: A Working Paper for the Evaluation of the National Longitudinal Survey of Children

3. ***Delphi Panel Study of Methodologists***: A Working Paper for the Evaluation of the National Longitudinal Survey of Children

4. ***Potential Users Survey***: A Working Paper for the Evaluation of the National Longitudinal Survey of Children

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